CDX-848X

SERVICE MANUAL

Ver 1.2 2001.06

US Model
AEP Model
UK Model

Model Name Using Similar Mechanism	NEW
CD Drive Mechanism Type	MG-251B-137
Optical Pick-up Name	KSS-720A

SPECIFICATIONS

System	Compact disc digital audio system
Laser diode properties	Material: GaAlAs Wavelength: 780 nm Emission Duration: Continuous Laser out-put Power: Less than 44.6 µW*

* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.*

Frequency response	5 – 20,000 Hz
Wow and flutter	Below the measurable limit
Signal-to-noise ratio	102 dB
Outputs	Optical digital output BUS control output (8 pins) Analog audio output (RCA pin)
Current drain	800 mA (during CD playback) 800 mA (during loading or ejecting a disc)
Operating temperature	–10°C to +55°C (14°F to 131°F)
Dimensions	Approx. 262 × 90 × 186.5 mm ($10\frac{3}{8} \times 3\frac{5}{8} \times 7\frac{3}{8}$ in.) (w/h/d) not incl. projecting parts and controls
Mass	Approx. 2.1 kg (4 lb. 10 oz.)
Power requirement	12 V DC car battery (negative ground)
Supplied accessories	Disc magazine (1) Parts for installation and connections (1 set)

Design and specifications are subject to change without notice.

COMPACT DISC CHANGER

9-870-244-13
2001F0500-1
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Sony Corporation
e Vehicle Company
Shinagawa Tec Service Manual Production Group

SONY®

SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

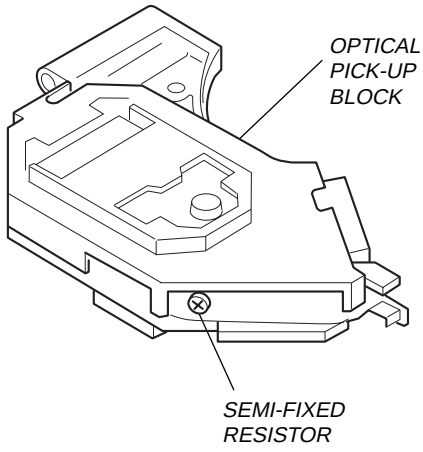
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

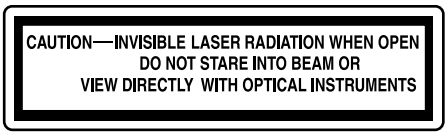
US model:

If the optical pick-up block is defective, please replace the whole optical pick-up block.
Never turn the semi-fixed resistor located at the side of optical pick-up block.



AEP/UK model:

The CLASS 1 LASER PRODUCT label is located on the rear exterior.



This label is located on the drive unit's internal chassis.

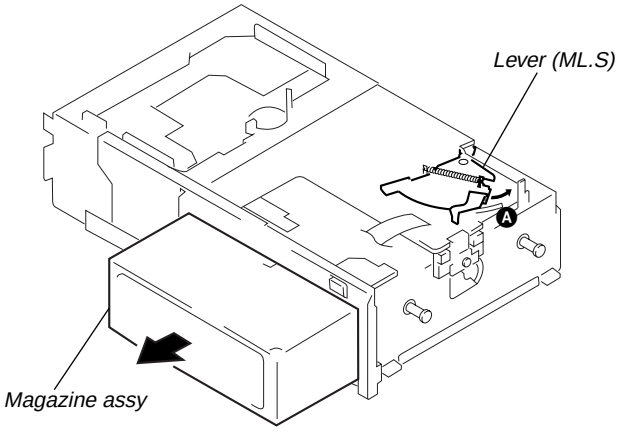
When replacing the chassis (U.S) sub assy of mechanism deck which have the "CAUTION LABEL" attached, please be sure to put a new CAUTION LABEL (3-223-913-11) to the chassis (U.S) sub assy.

DISC MAGAZINE GETTING OUT PROCEDURE ON THE POWER SUPPLY IS OFF

Remove the CASE (LOWER T) beforehand

1) Press the lever (ML.S) assy in the direction of arrow Ⓐ.
2) Removal the magazine assy.

Note: Take out the magazine only when the tray is completely within the magazine. If the disk or tray is sticking out, turn on the power and eject the magazine.



CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

NOTE FOR REPLACING IC201

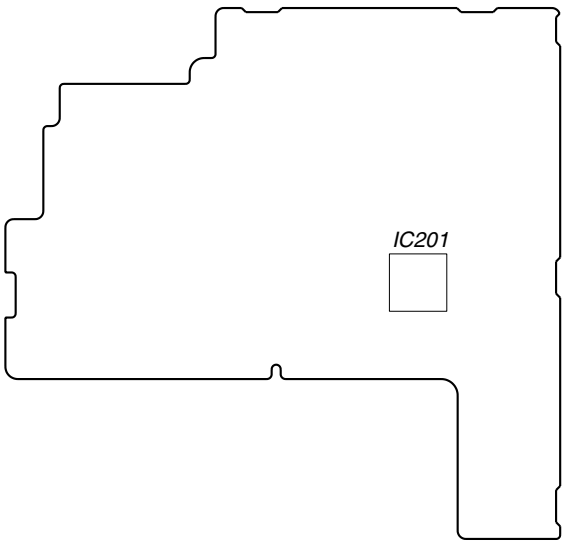
IC201 on MAIN board for this set has been changed in the mid-way of manufacturing.
In a set that the former type of IC201 is mounted, SUB board is connected to MAIN board (conductor side).
No service parts are supplied for the former type of IC201 and SUB board.
When the former type of IC201 is replaced, remove SUB board and replace the former type of IC201 with the new type.

CHECKING QUALITY OF SUB BOARD

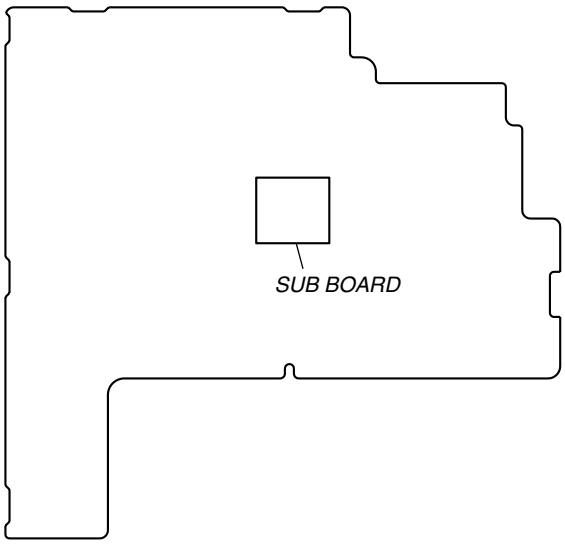
If the set works normally after SUB board is removed from MAIN board, SUB board has a trouble.
IN this case, remove SUB board and replace IC201 now in use with the new type of IC201.

	Former Type	New Type
MAIN BOARD IC201	MB90473PFV-G-108-BNDE1	MB90473PFV-G-110-BNDE1
SUB BOARD	○	×

– MAIN BOARD (Component Side) –



– MAIN BOARD (Conductor Side) –



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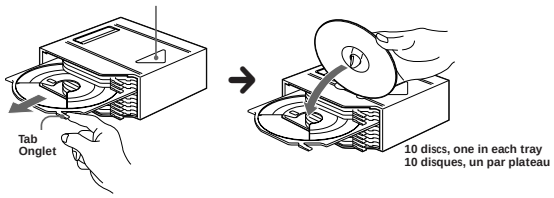
SECTION 1
GENERAL

This section is extracted from instruction manual.

Inserting a disc

1 **With the arrow side facing up**
Avec la partie fléchée tournée vers le haut

Labeled surface up
Etiquette vers le haut



10 discs, one in each tray
10 disques, un par plateau

Use the supplied disc magazine or the disc magazine XA-250.The disc magazine XA-10B can not be used with this unit.If you use any other magazine,it may cause a malfunction.

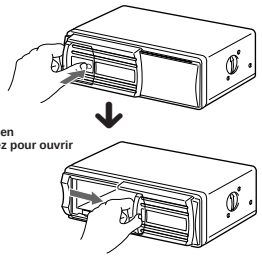
Utilisez le magasin à disques fourni ou un magasin à disques XA-250. Vous ne pouvez pas utiliser de magasin à disques XA-10B avec cet appareil. L'utilisation d'un autre type de magasin à disques risque de provoquer un dysfonctionnement.

Notes
- *To listen to an 8 cm (3 in.) CD, use the separately sold Sony CD adapter CSA-8. Be sure to always use the specified adapter, as failing to do so may cause a malfunction of the unit. If you use any other adapter, the unit may not operate properly. When using the Sony CD adapter, make sure the three catches on the adapter are firmly latched onto the 8 cm CD.*
- *Do not insert the Sony CD adapter CSA-8 in the magazine without a disc, malfunction may result.*

Remarques
- *Pour écouter un disque de 8 cm (3 po.), utilisez l'adaptateur Sony CSA-8, vendu séparément, à l'exclusion de tout autre, pour éviter tout problème de fonctionnement. Si vous utilisez un autre adaptateur, l'appareil risque de ne pas fonctionner correctement. Quand vous utilisez l'adaptateur CD Sony, vérifiez que les trois griffes soient bien en prise sur le CD de 8 cm.*
- *Ne pas insérer d'adaptateur CD Sony CSA-8 dans le chargeur sans disque, car cela pourrait provoquer un dysfonctionnement.*

Insertion d'un disque

2 **Push to unlock the door**
Poussez pour déverrouiller la porte



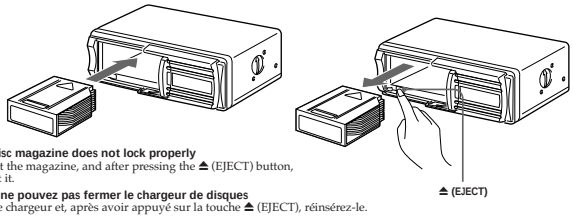
Slide open
Coulissez pour ouvrir

Note
To prevent injury, do not insert your hand in the CD changer.

Remarque
Pour éviter toute blessure, ne pas introduire la main dans le changeur de CD.

3 **Disc magazine**
Chargeur de disques

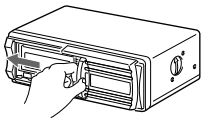
To remove
Retrait



If the disc magazine does not lock properly
Take out the magazine, and after pressing the ⏏ (EJECT) button, re-insert it.

Si vous ne pouvez pas fermer le chargeur de disques
Sortez le chargeur et, après avoir appuyé sur la touche ⏏ (EJECT), réinsérez-le.

4



Use the unit with the door closed completely
Otherwise, foreign matter may enter the unit and contaminate the lenses inside the changer.

Utilisez cet appareil avec la fenêtre complètement fermée
Sinon, des corps étrangers pourraient pénétrer dans l'appareil et encrasser les lentilles dans le lecteur.

Note
When a disc magazine is inserted into the CD changer or the reset button of the connected car audio is pressed, the unit will automatically be activated and read the information on the CDs. When the information on all the CDs in the disc magazine has been read, the unit will automatically stop operation.

Remarque
Quand un chargeur de disques est inséré dans le changeur de CD ou si la touche de réinitialisation de l'autoradio raccordé est enclenchée, l'appareil se met automatiquement en marche et reproduit les CD. Lorsque tous les CD du chargeur ont été reproduits, l'appareil s'arrête automatiquement.

Notes on the disc magazine

- Do not leave the disc magazine in locations with high temperatures and high humidity such as on a car dashboard or in the rear window where the disc magazine will be subjected to direct sunlight.
- Do not place more than one disc at a time onto one tray, otherwise the changer and the discs may be damaged.
- Do not drop the disc magazine or subject it to a violent shock.

Remarques sur le chargeur de disques

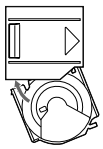
- Ne pas laisser le chargeur de disques dans un endroit très chaud ou très humide comme sur le tableau de bord ou sur la plage arrière de la voiture où il serait en plein soleil.
- Ne pas insérer plus d'un disque à la fois sur le plateau, sinon le changeur et les disques risquent d'être endommagés.
- Ne pas laisser tomber le chargeur de disques ni le cogner.

When the tray comes out

Normally, the trays will not come out of the magazine. However, if they are pulled out of the magazine, it is easy to re-insert them.

With the cut-away portion of the tray facing you, insert the right corner of the tray in the slot, then push in the left corner until it clicks.

Note
Do not insert the tray upside down or in the wrong direction.



Lorsque le plateau sort

En principe, les plateaux ne sortent pas du chargeur. Toutefois, s'ils sortent du chargeur, il est facile de les réinsérer.

Avec la portion découpée du plateau vous faisant face, insérer le coin droit du plateau dans la fente, puis enfoncer le coin gauche jusqu'au déclic.

Remarque
Ne pas insérer le plateau à l'envers ou dans le mauvais sens.

Notes on handling discs

A dirty or defective disc may cause sound drop-outs during playback. To enjoy optimum sound, handle the disc as follows.

- **Handle the disc by its edge, and to keep the disc clean, do not touch the unlabeled surface. (fig. A)**
- **Do not stick paper or tape on the disc. (fig. B)**
- **Keep your discs in their cases or disc magazines when not in use.**
  Do not expose discs to direct sunlight or heat sources such as hot air-ducts. Do not leave discs in a car parked in direct sunlight where there can be a considerable rise in the temperature inside the car. (fig. C)
- **Before playing, clean the discs with an optional cleaning cloth. Wipe each disc in the direction of the arrows. (fig. D)**
  Do not use solvents such as benzine, thinner, commercially available cleaners or antistatic spray intended for analog discs.
- **Discs with special shapes (heart-shaped discs, octagonal discs etc.) cannot be played on this unit. Attempting to do so may damage the unit. Do not use such discs.**

Notes on discs

If you use the discs explained below, the sticky residue can cause the disc to stop spinning and may cause malfunction or ruin your discs.
Do not use second-hand or rental CDs that have a sticky residue on the surface (for example from peeled-off stickers or from ink, or glue leaking from under the stickers).

- **There are paste residue. Ink is sticky. (fig. E)**
  Do not use rental CDs with old labels that are beginning to peel off.
- **Stickers that are beginning to peel away, leaving a sticky residue. (fig. F)**
  Do not use your discs with labels or stickers attached.
- **Labels are attached. (fig. G)**

Notes on CD-R discs

- **You can play CD-Rs (recordable CDs) designed for audio use on this unit (fig. H).**
- **Some CD-Rs (depending on the equipment used for its recording or the condition of the disc) may not play on this unit.**
- **You cannot play a CD-R that is not finalized*.**

** A process necessary for a recorded CD-R disc to be played on the audio CD player.*

Remarques sur la manipulation des disques

Un disque sale ou défectueux peut provoquer des pertes de son à la lecture. Manipuler le disque comme suit pour obtenir un son optimal.

- **Manipuler le disque par son arête et le maintenir dans un état propre, ne pas le toucher sur la surface non imprimée. (fig. A)**
- **Ne pas coller de papier ou de bande adhésive sur le disque. (fig. B)**
- **Conservez vos disques dans leurs boîtiers ou des pochettes de rangement lorsqu'ils ne sont pas utilisés.**
  Ne pas laisser les disques en plein soleil ou près d'une source de chaleur comme des conduits d'air chaud. Ne pas laisser les disques dans une voiture garée en plein soleil car la température de l'habitacle risque d'augmenter considérablement. (fig. C)
- **Avant la lecture, essuyer les disques avec un chiffon de nettoyage en option. Essuyer chaque disque dans le sens des flèches. (fig. D)**
  Ne pas utiliser de solvants tels que de la benzine, du diluant, des produits de nettoyage vendus dans le commerce ou de vaporisateurs anti-statiques destinés aux disques analogiques.
- **Il n'est pas possible d'utiliser les disques de formes spéciales (en forme de cœur ou octogonaux, etc.) avec cet appareil. Vous risquez d'endommager l'appareil. N'essayez jamais de lire ces disques.**

Remarques sur les disques

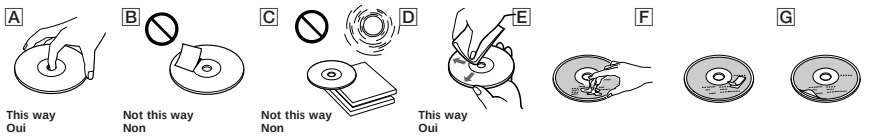
Si vous utilisez les disques décrits ci-dessous, le résidu adhésif risque de provoquer l'arrêt de la rotation du disque et d'entraîner un dysfonctionnement ou d'endommager vos disques.
N'utilisez pas de CD de seconde main ou de location qui présentent des résidus adhésifs à la surface (par exemple d'étiquettes décollées ou d'encre, de colle dépassant de l'étiquette).

- **Résidus de colle. L'encre colle. (fig. E)**
  N'utilisez pas de CD de location avec d'anciennes étiquettes qui commencent à se décoller.
- **Les étiquettes qui commencent à se décoller laissent des résidus adhésifs. (fig. F)**
  N'utilisez pas vos disques avec des étiquettes ou des autocollants apposés dessus.
- **Les étiquettes sont fixées. (fig. G)**

Remarques sur les disques CD-R

- **Vous pouvez écouter avec cet appareil des CD-R (CD enregistrables) conçus pour une utilisation audio. (fig. H)**
- **Certains CD-R (en fonction des conditions de l'équipement d'enregistrement ou du disque) risquent de ne pas être lus avec cet appareil.**
- **Vous ne pouvez pas lire de disques CD-R non finalisés*.**

** Un processus nécessaire à la lecture des disques CD-R enregistrés sur le lecteur de CD audio.*



This way
Oui

Not this way
Non

Not this way
Non

This way
Oui

H **Look for this mark to distinguish CD-Rs for audio use.**
Ce symbole permet de distinguer les CD-R conçus pour une utilisation audio.

COMPACT disc DIGITAL AUDIO Recordable

This mark denotes that a disc is not for audio use.
Ce symbole indique qu'un disque n'est pas conçu pour une utilisation audio.

COMPACT disc Recordable

Installation

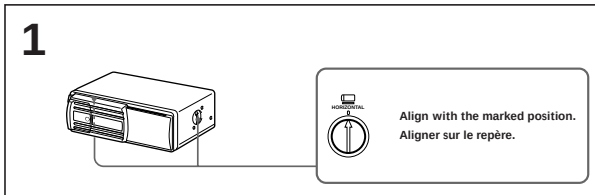
Precautions

- Choose the mounting location carefully, observing the following:
  - — The unit is not subject to temperatures exceeding 55°C (131°F) (such as in a car parked in direct sunlight).
  - — The unit is not subject to direct sunlight.
  - — The unit is not near heat sources (such as heaters).
  - — The unit is not exposed to rain or moisture.
  - — The unit is not exposed to excessive dust or dirt.
  - — The unit is not subject to excessive vibration.
  - — The fuel tank should not be damaged by the tapping screws.
  - — There should be no wire harnesses or pipes under the place where you are going to install the unit.
  - — The spare tire, tools or other equipment in or under the trunk should not be interfered with or damaged by the screws or the unit itself.
- Be sure to use only the supplied mounting hardware for a safe and secure installation.
- Use only the supplied screws.
- Make holes of ø 3.5 mm (5/32 in.) only after making sure there is nothing on the other side of the mounting surface.

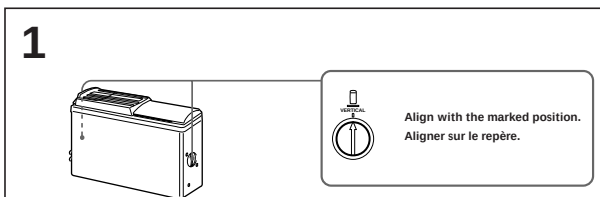
How to install the unit

The brackets ① provide two positions for mounting, high and low. Use the appropriate screw holes according to your preference.

Horizontal installation



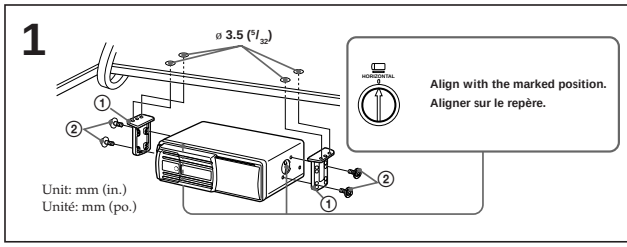
Vertical installation



Suspended installation

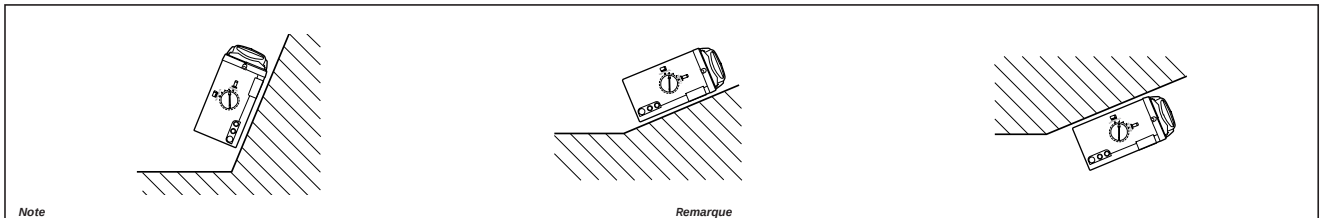
When the unit is to be installed under the rear tray etc. in the trunk compartment, make sure the following provisions are made.

- Choose the mounting location carefully so that the unit can be installed horizontally.
- Make sure the unit does not hinder the movement of the torsion bar spring etc. of the trunk lid.



Inclined installation

After installing the unit, align the dials with one of the marks so that the arrows are as vertical as possible.



Note
Be sure to align the left and right dials with the same mark.

Installation

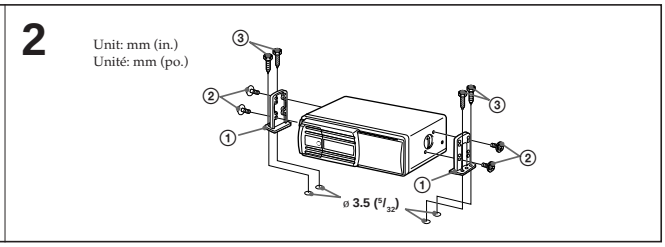
Précautions

- Choisir l'emplacement de montage en tenant compte des observations suivantes:
  - — Appareil non soumis à des températures dépassant 55°C (131°F) (comme dans une voiture parquée au soleil).
  - — Appareil non soumis au rayonnement solaire direct.
  - — Appareil à l'écart de sources de chaleur (comme des radiateurs).
  - — Appareil non exposé à la pluie ou à l'humidité.
  - — Appareil non exposé à des poussières ou à des souillures en excès.
  - — Appareil non exposé à des vibrations excessives.
  - — Vérifier que le réservoir d'essence ne risque pas d'être endommagé par les vis taraudeuses.
  - — Il ne doit pas y avoir de faisceau de fils ou de tuyaux à l'emplacement du montage.
  - — Vérifier que l'appareil ou les vis ne risquent pas d'endommager ou de gêner la roue de secours, les outils, ou autre objet dans le coffre.
- Pour garantir la sécurité de l'installation, utiliser uniquement le matériel de montage fourni.
- Utilisez uniquement les vis fournies.
- Ne percez les trous de 3,5 mm (5/32 po.)ø qu'après vous être assuré qu'il n'y avait rien de l'autre côté de la surface de montage.

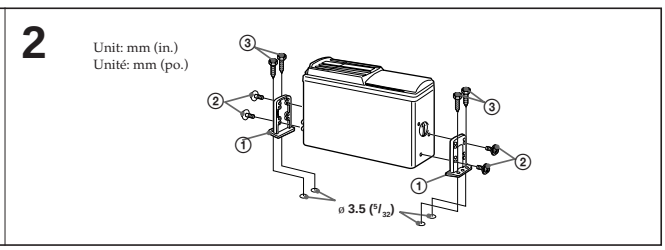
Installation de l'appareil

Les supports ① offrent deux positions de montage, haut et bas. Utilisez les trous de vissage appropriés en fonction de vos préférences.

Installation horizontale



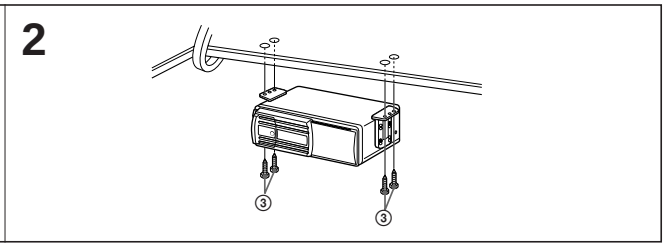
Installation verticale



Installation suspendue

Si l'appareil doit être installé sous la plage arrière dans le coffre, par exemple, observer les précautions suivantes.

- Bien choisir l'emplacement pour pouvoir installer l'appareil à l'horizontale.
- Vérifier que l'appareil ne gêne pas les mouvements du ressort de fermeture du coffre, entre autres.



Installation inclinée

Après avoir installé l'appareil, alignez les disques sur un repère de façon à ce que les flèches soient dans la position la plus verticale possible.

Remarque
Veillez á aligner les disques gauche et droite sur le même repère.

Connections

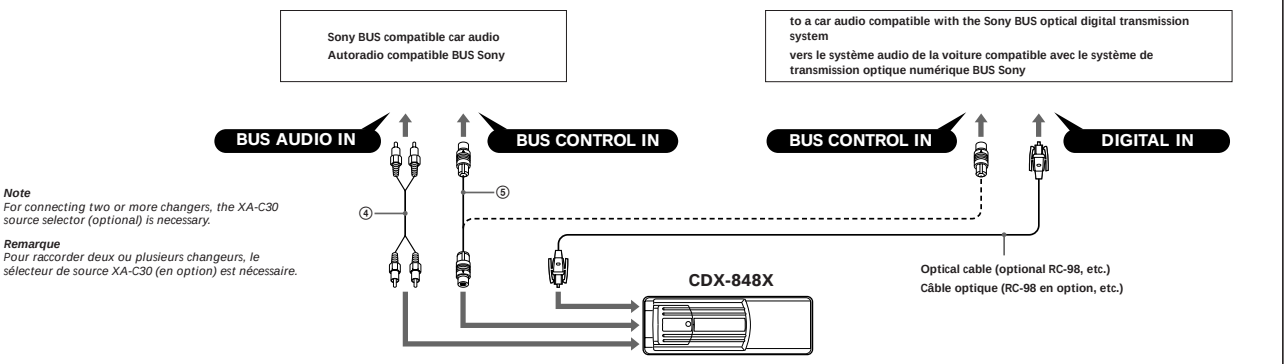
For details, refer to the Installation/Connections manual of each product.

Conne xions

Pour plus de détails, consulter le manuel d'installat ion/connexions de chaque produit.

Connection diagram

Schéma de connexion


Sony BUS compatible car audio
Autoradio compatible BUS Sony
to a car audio compatible with the Sony BUS optical digital transmission system
vers le système audio de la voiture compatible avec le système de transmission optique numérique BUS Sony
BUS AUDIO IN
BUS CONTROL IN
BUS CONTROL IN
DIGITAL IN
④
⑤
CDX-848X
Optical cable (optional RC-98, etc.)
Câble optique (RC-98 en option, etc.)

Note
For connecting two or more changers, the XA-C30 source selector (optional) is necessary.

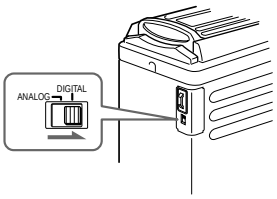
Remarque
Pour raccorder deux ou plusieurs changeurs, le sélecteur de source XA-C30 (en option) est nécessaire.

Connecting the optional optical cable

Connexion du câble optique en option

1

Set the DIGITAL/ANALOG switch on the side of the CD changer to DIGITAL.
Mettre le commutateur DIGITAL/ANALOG sur le côté du changeur de CD sur DIGITAL.



After changing the position of the switch, be sure to press the reset button on the main unit.

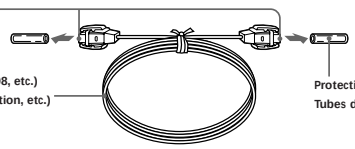
Après avoir modifié la position du commutateur, veiller à appuyer sur la touche de réinitialisation de l'appareil principal.

Notes
- *This switch is factory-set to the ANALOG position.*
- *Improper setting of the switch may prevent any sound from being reproduced even when the CD changer is activated.*

Remarques
- *Ce sélecteur est préréglé en usine sur la position ANALOG (analogique).*
- *Un réglage incorrect du sélecteur peut empêcher la reproduction du son même quand le changeur de CD fonctionne.*

2

Do not touch the coupler parts.
Ne pas toucher les pièces du coupleur.

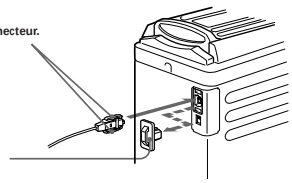


Optical cable (optional RC-98, etc.)
Câble optique (RC-98 en option, etc.)

Protective tubes (to be removed)
Tubes de protection (à enlever)

3

Remove the protective cap, and firmly plug in the connector.
Retirez le bouchon de protection et enfichez correctement le connecteur.



Protective cap
Cache de protection

Notes
- *When you wish to disconnect the cable, simply push in on both sides of the connector.*
- *Be sure to keep the protective cap in a safe place for future use.*

Remarques
- *Pour débrancher le câble, appuyer simplement sur les deux côtés du connecteur.*
- *Garder le capuchon de protection dans un endroit sûr pour une utilisation ultérieure.*

Notes on the optical cable
Observe the following when connecting the cable:
- *Do not bend the cable too much. If the bent part (arc) is less than 10 cm (4 in.) in diameter, sound may not be reproduced.*
- *Make sure the cable does not get compressed or constricted in any way by objects around it.*
- *Never let the coupler parts of the connectors get scratched or become contaminated with dirt.*
- *If this unit is not connected to a car audio compatible with the Sony BUS optical digital transmission system, reinstall the protective cap to its original position.*
- *Use an optical cable designed for Sony car audio systems.*
- *Not all optical cables can be used with this CD changer.*

Remarques sur le câble optique
Lors de la connexion du câble:
- *Ne pas forcer le câble en le pliant. Si la partie courbée (coude) fait moins de 10 cm (4 po.) de diamètre, il est possible que le son ne soit pas reproduit.*
- *Vérifier que le câble n'est pas coincé ou écrasé par des objets environnants.*
- *Protéger les pièces du coupleur des égratignures eet de la saleté.*
- *Si cet appareil n'est pas raccordé à un autoradio compatible avec le système de transmission numérique optique BUS Sony digital, réinstaller le capuchon de protection dans sa position d'origine.*
- *Utilisez un câble optique conçu pour les systèmes audio pour voiture Sony.*
- *Tous les câbles optiques ne peuvent pas être utilisés avec ce changeur de CD.*

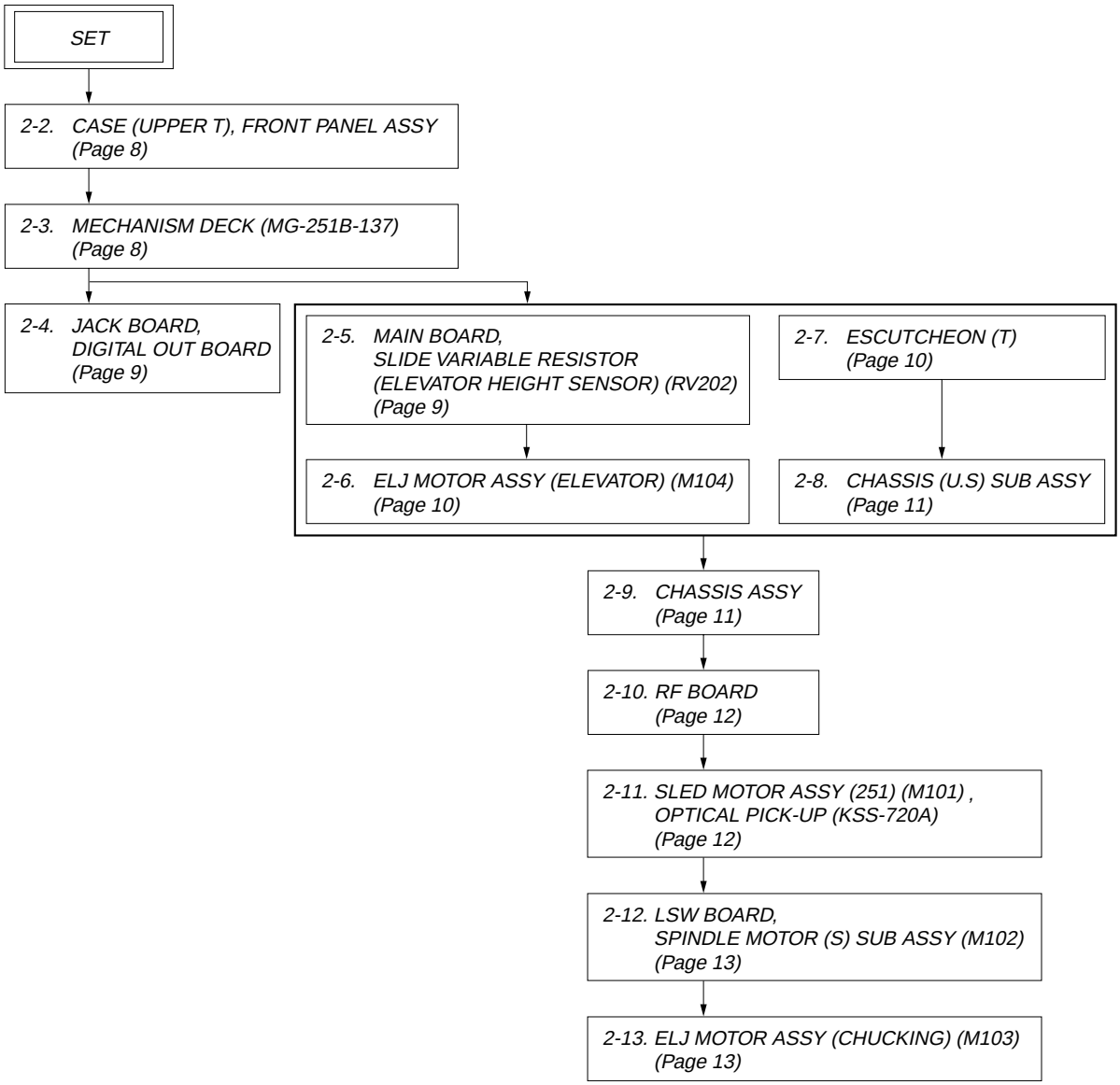
SECTION 2
DISASSEMBLY

• This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

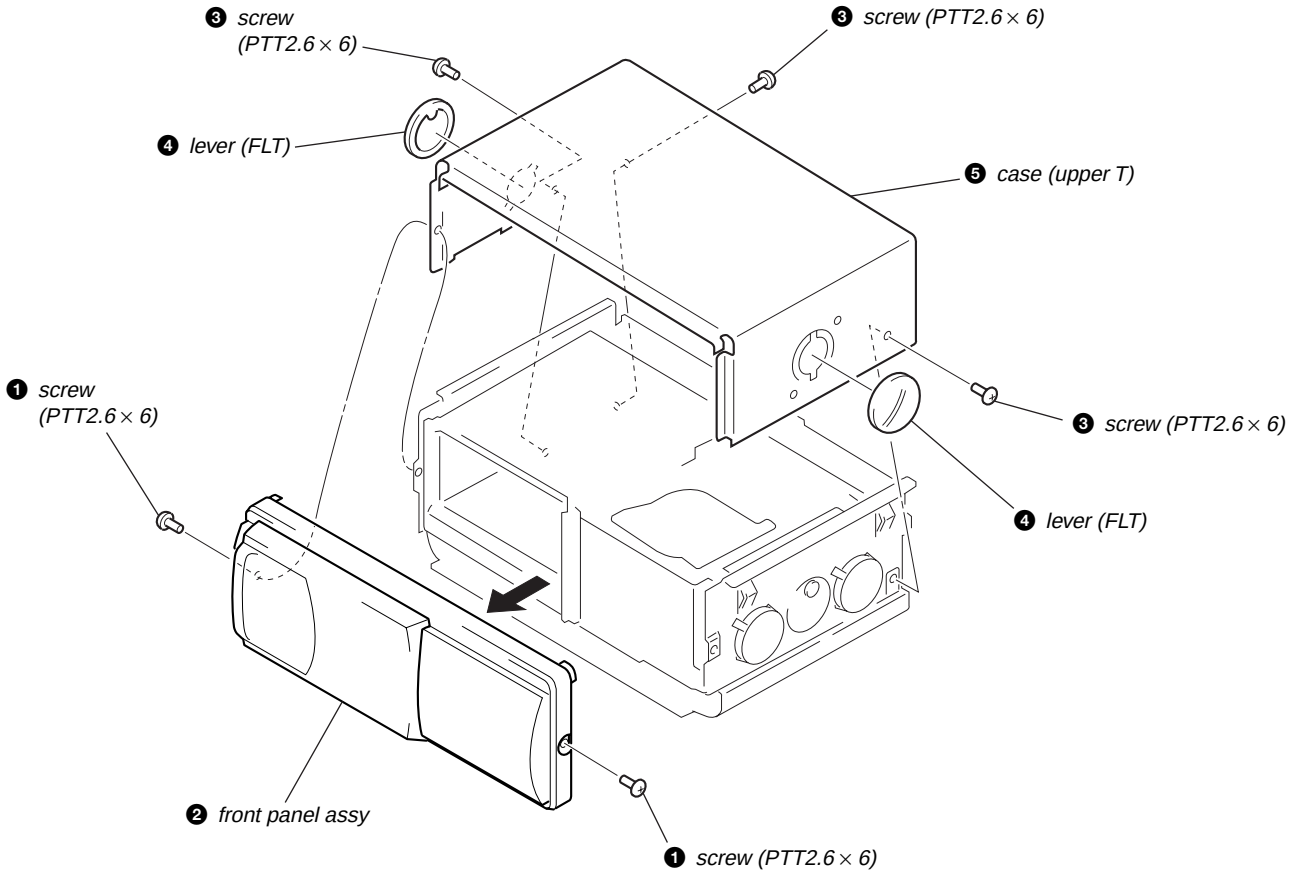
Note 1: *The process described in* ▣ *can be performed in any order.*

Note 2: *Without completing the process described in* ▣*, the next process can not be performed.*

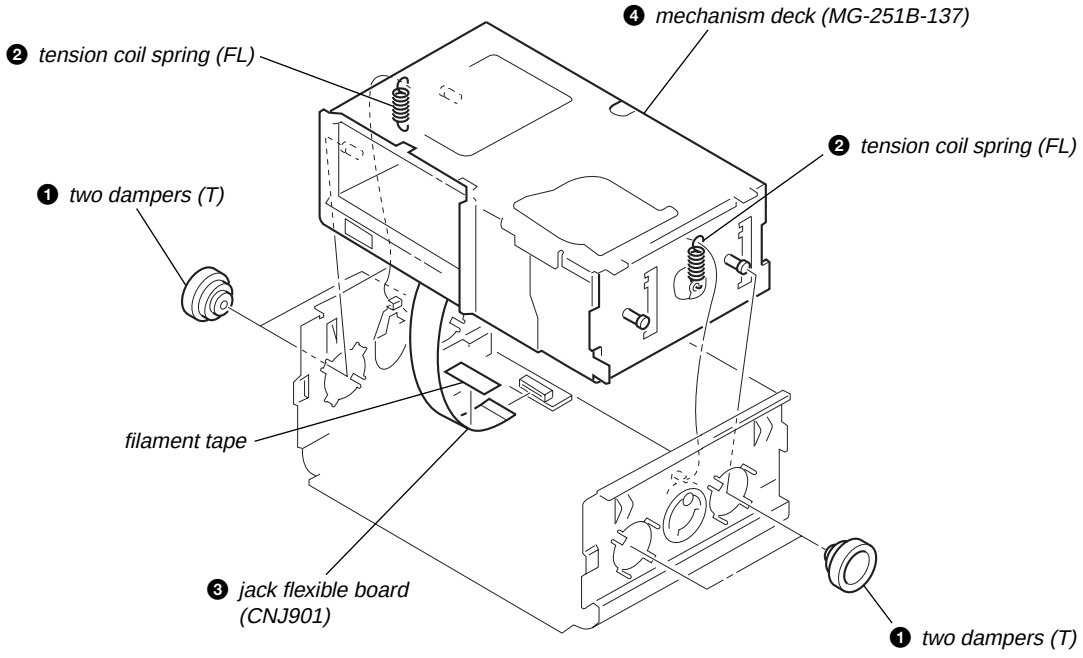

SET
2-2. CASE (UPPER T), FRONT PANEL ASSY (Page 8)
2-3. MECHANISM DECK (MG-251B-137) (Page 8)
2-4. JACK BOARD, DIGITAL OUT BOARD (Page 9)
2-5. MAIN BOARD, SLIDE VARIABLE RESISTOR (ELEVATOR HEIGHT SENSOR) (RV202) (Page 9)
2-6. ELJ MOTOR ASSY (ELEVATOR) (M104) (Page 10)
2-7. ESCUTCHEON (T) (Page 10)
2-8. CHASSIS (U.S) SUB ASSY (Page 11)
2-9. CHASSIS ASSY (Page 11)
2-10. RF BOARD (Page 12)
2-11. SLED MOTOR ASSY (251) (M101) , OPTICAL PICK-UP (KSS-720A) (Page 12)
2-12. LSW BOARD, SPINDLE MOTOR (S) SUB ASSY (M102) (Page 13)
2-13. ELJ MOTOR ASSY (CHUCKING) (M103) (Page 13)

Note: Follow the disassembly procedure in the numerical order given.

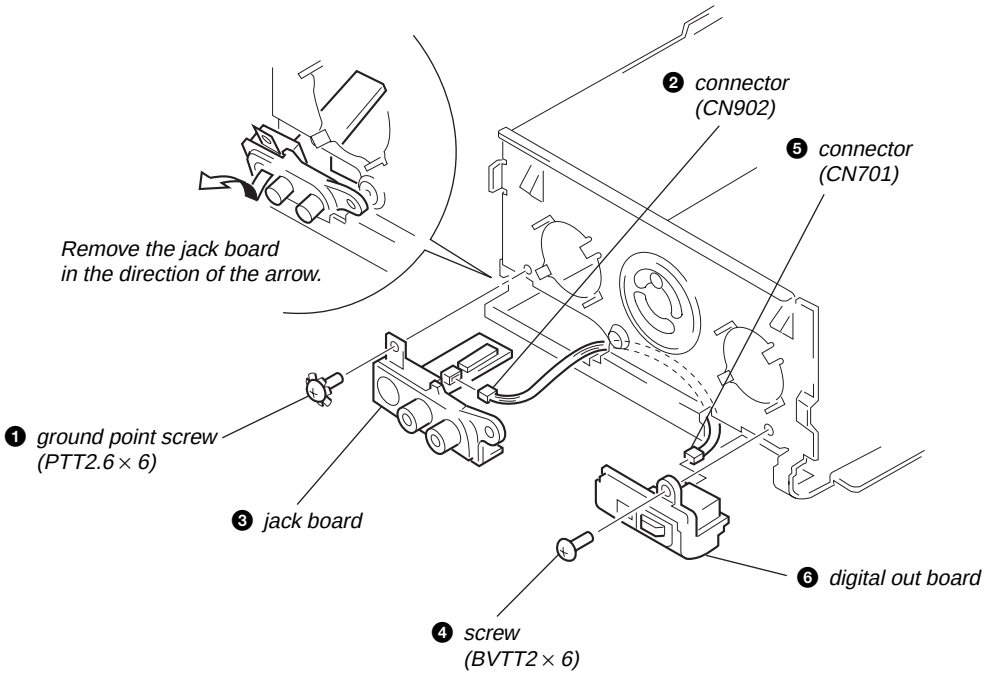
2-2. CASE (UPPER T), FRONT PANEL ASSY


❸ screw (PTT2.6 × 6)
❸ screw (PTT2.6 × 6)
❹ lever (FLT)
❺ case (upper T)
❶ screw (PTT2.6 × 6)
❸ screw (PTT2.6 × 6)
❹ lever (FLT)
❷ front panel assy
❶ screw (PTT2.6 × 6)

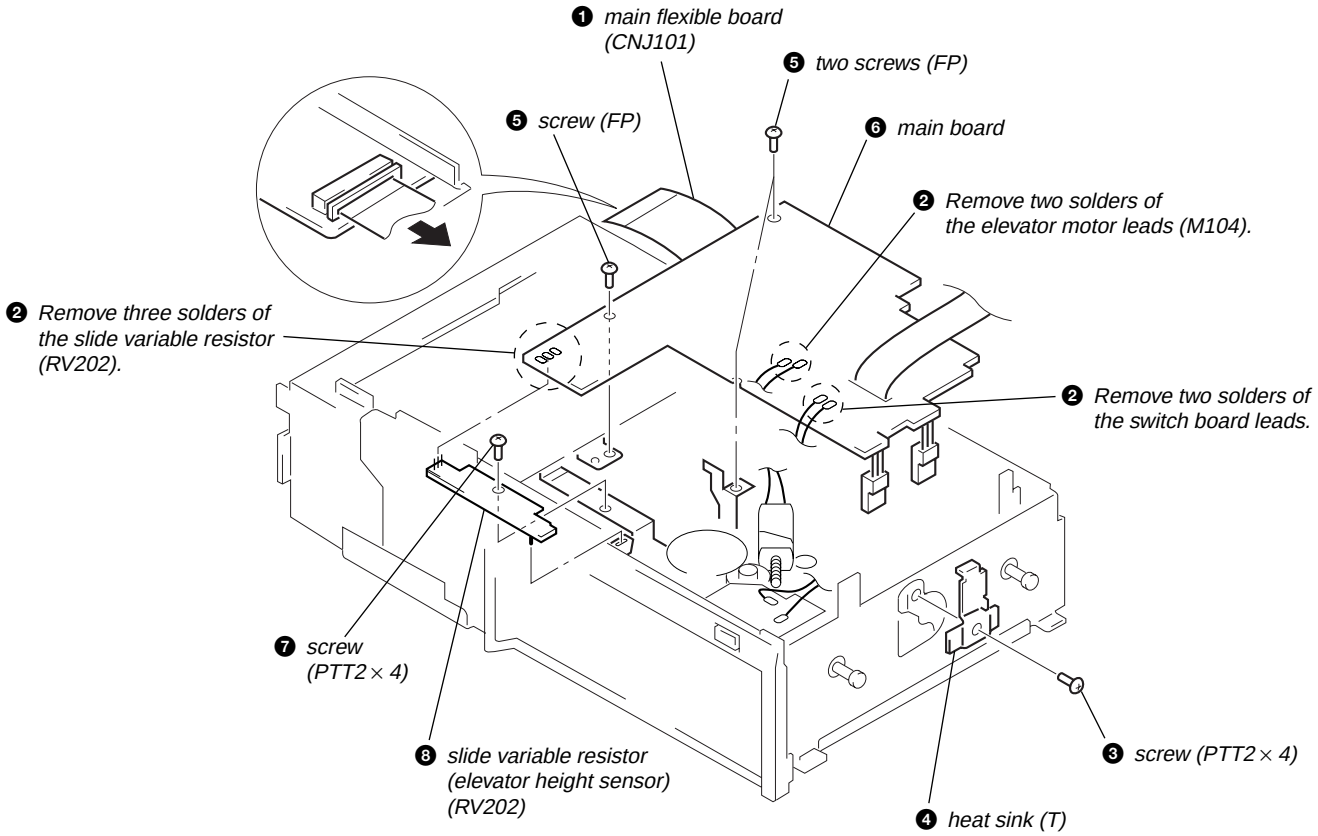
2-3. MECHANISM DECK (MG-251B-137)


❹ mechanism deck (MG-251B-137)
❷ tension coil spring (FL)
❷ tension coil spring (FL)
❶ two dampers (T)
filament tape
❸ jack flexible board (CNJ901)
❶ two dampers (T)

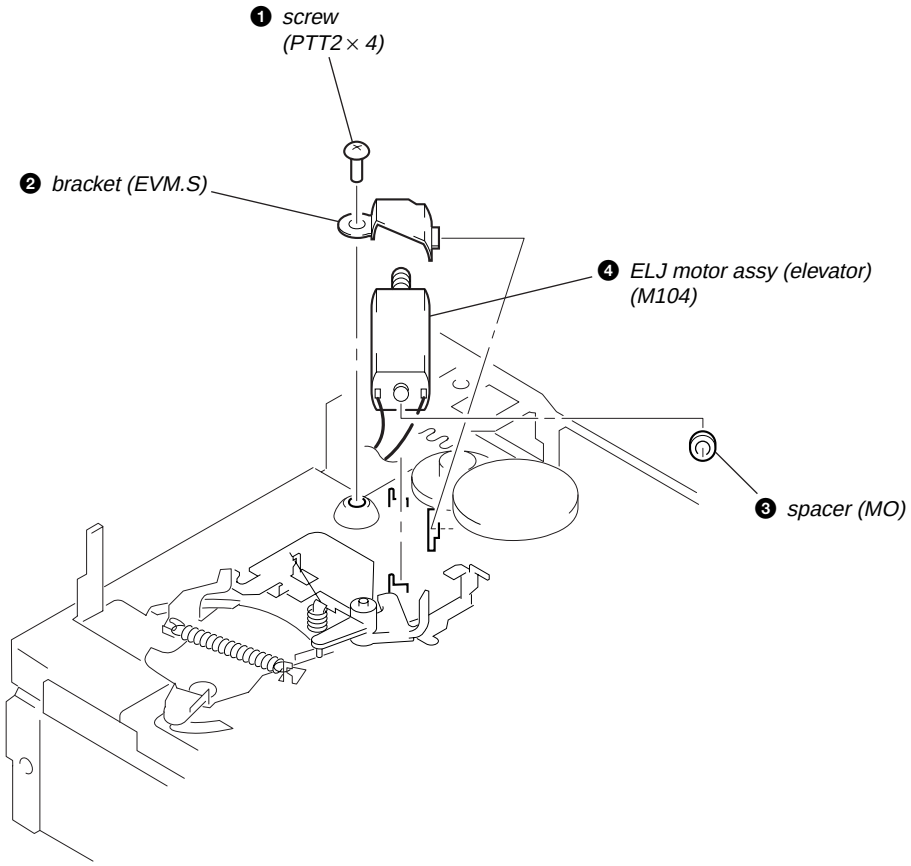
2-4. JACK BOARD, DIGITAL OUT BOARD


❷ connector (CN902)
❺ connector (CN701)
Remove the jack board in the direction of the arrow.
❶ ground point screw (PTT2.6 × 6)
❸ jack board
❻ digital out board
❹ screw (BVTT2 × 6)

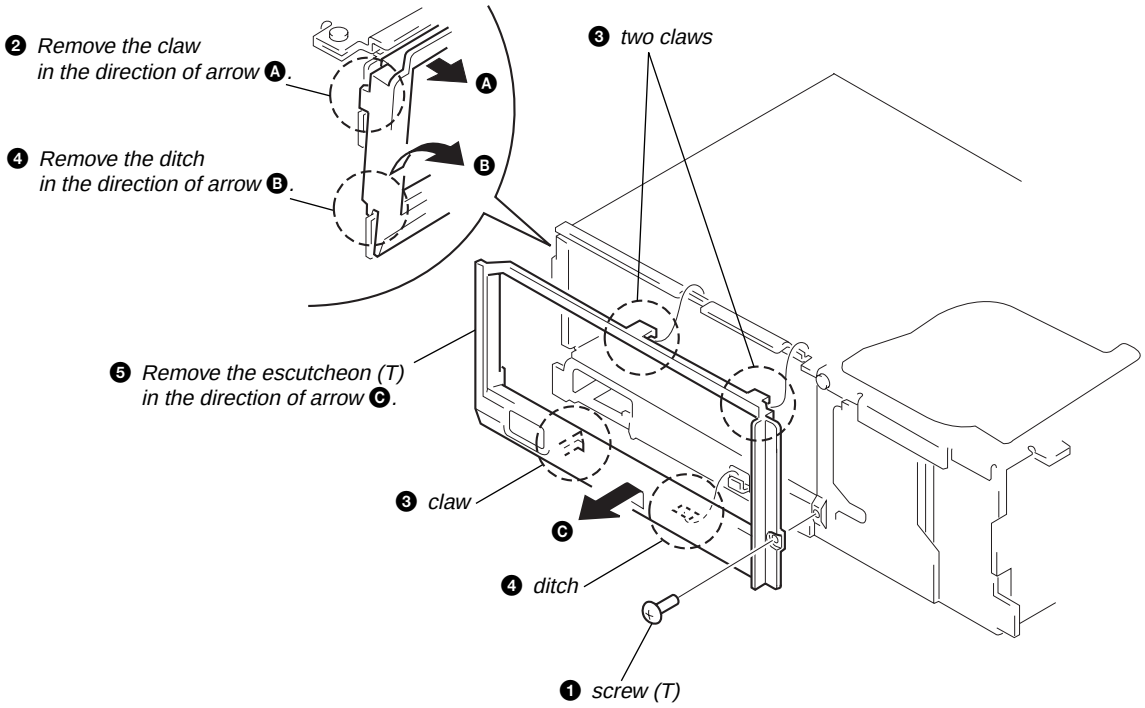
2-5. MAIN BOARD, SLIDE VARIABLE RESISTOR (ELEVATOR HEIGHT SENSOR) (RV202)


❶ main flexible board (CNJ101)
❺ two screws (FP)
❺ screw (FP)
❻ main board
❷ Remove two solders of the elevator motor leads (M104).
❷ Remove three solders of the slide variable resistor (RV202).
❷ Remove two solders of the switch board leads.
❼ screw (PTT2 × 4)
❸ screw (PTT2 × 4)
❽ slide variable resistor (elevator height sensor) (RV202)
❹ heat sink (T)

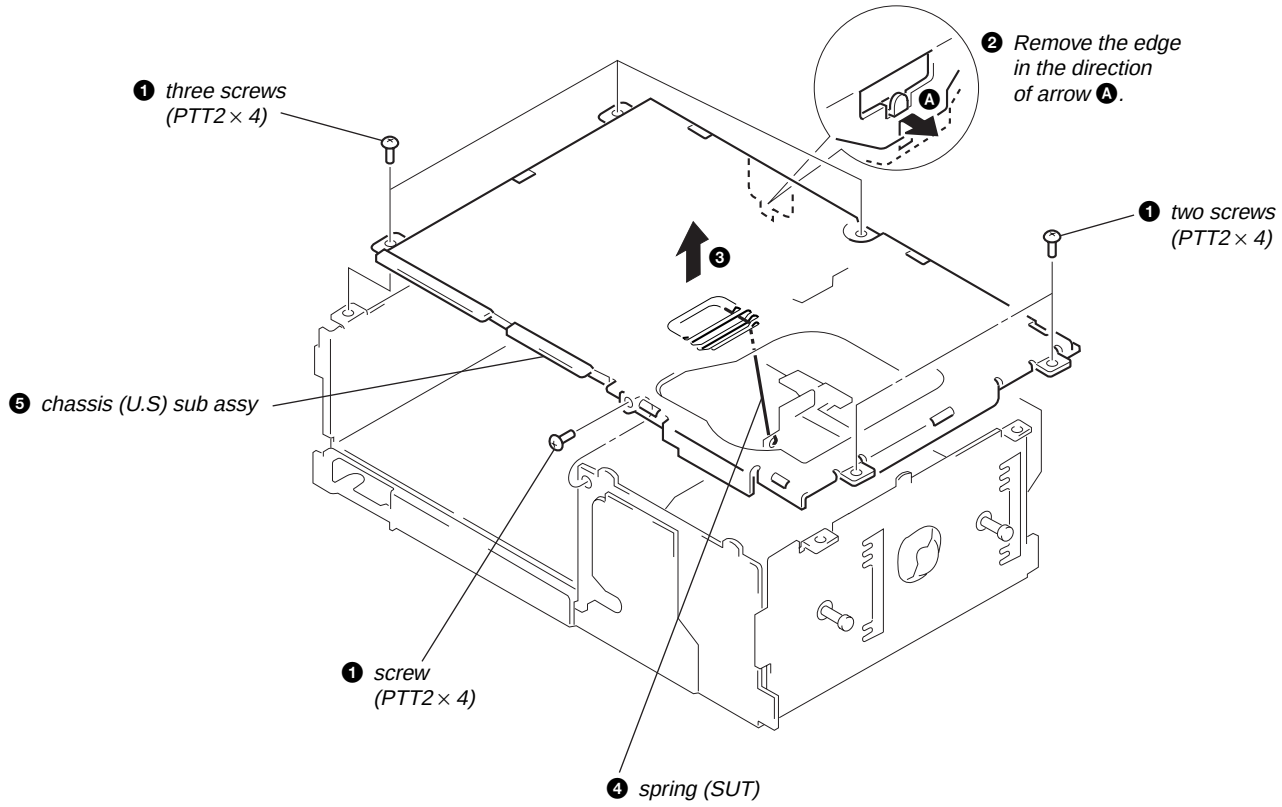
2-6. ELJ MOTOR ASSY (ELEVATOR) (M104)



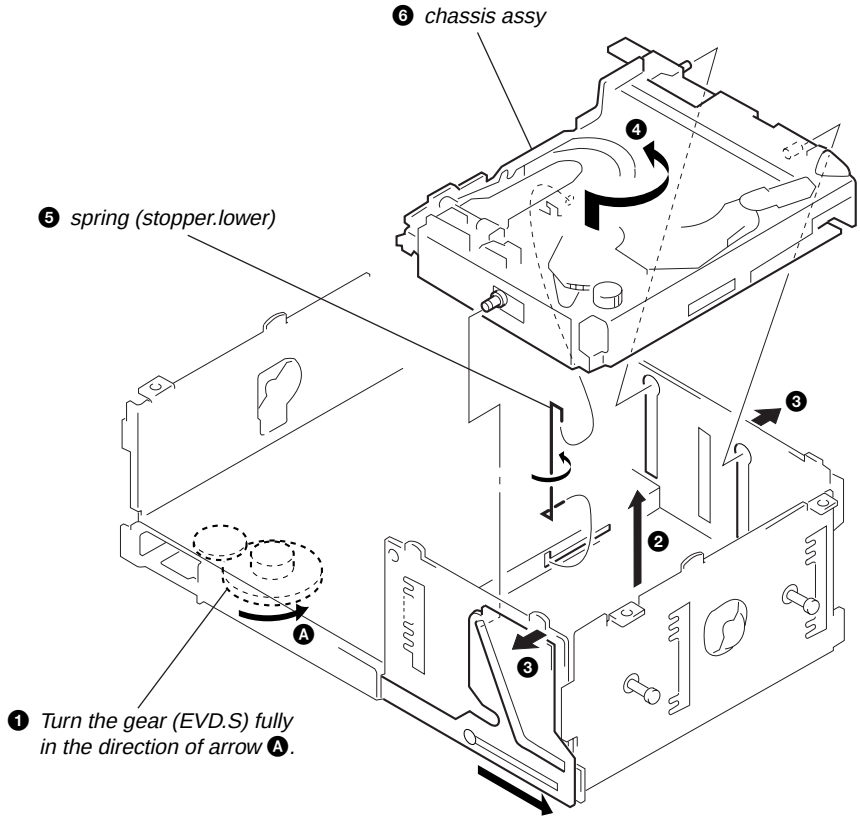
2-7. ESCUTCHEON (T)



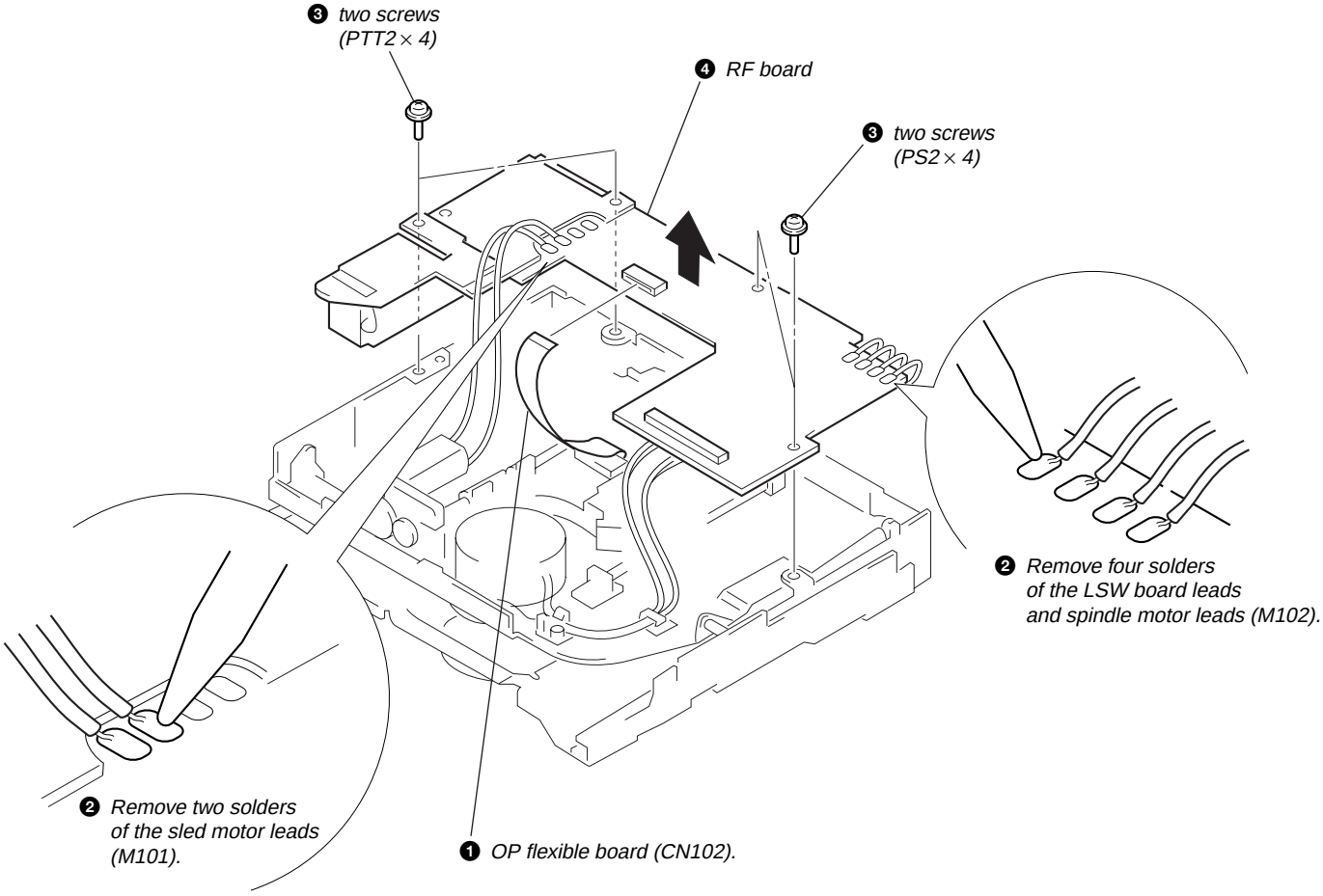
2-8. CHASSIS (U.S) SUB ASSY


❶ three screws (PTT2 × 4)
❷ Remove the edge in the direction of arrow Ⓐ.
❶ two screws (PTT2 × 4)
❺ chassis (U.S) sub assy
❶ screw (PTT2 × 4)
❹ spring (SUT)

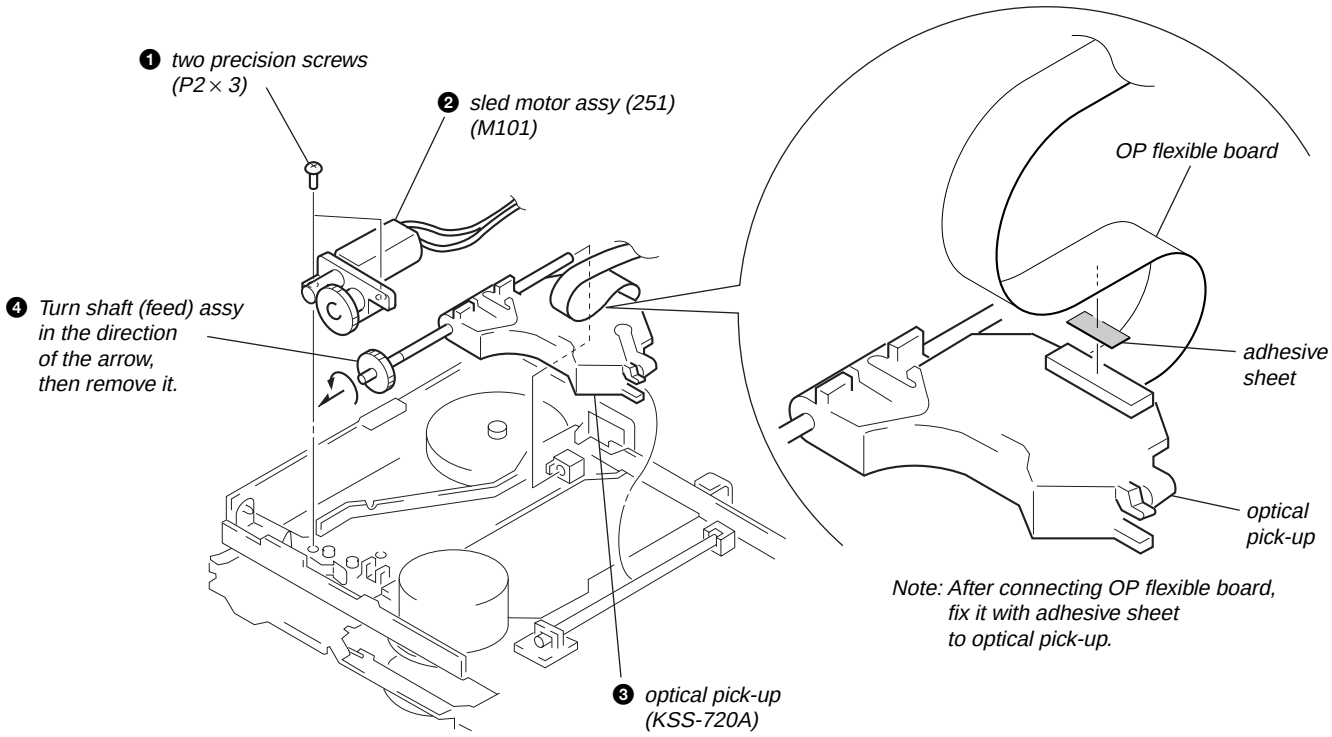
2-9. CHASSIS ASSY



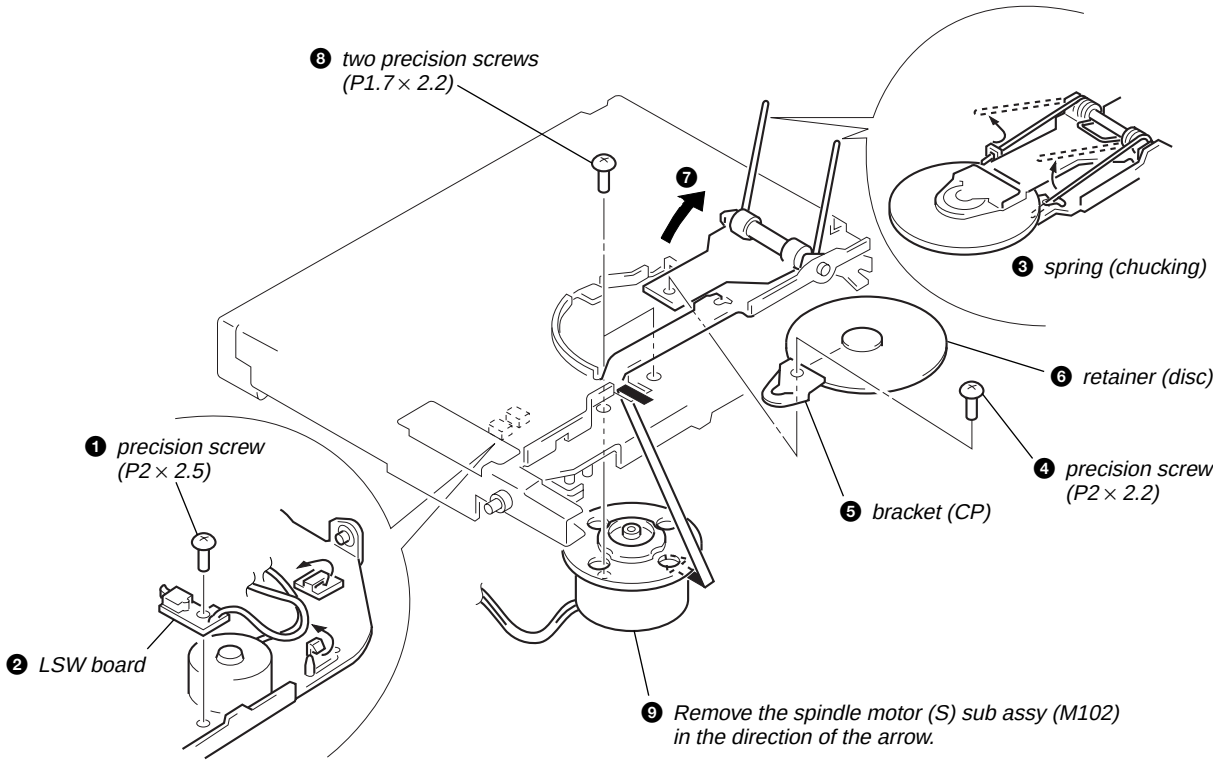
2-10. RF BOARD



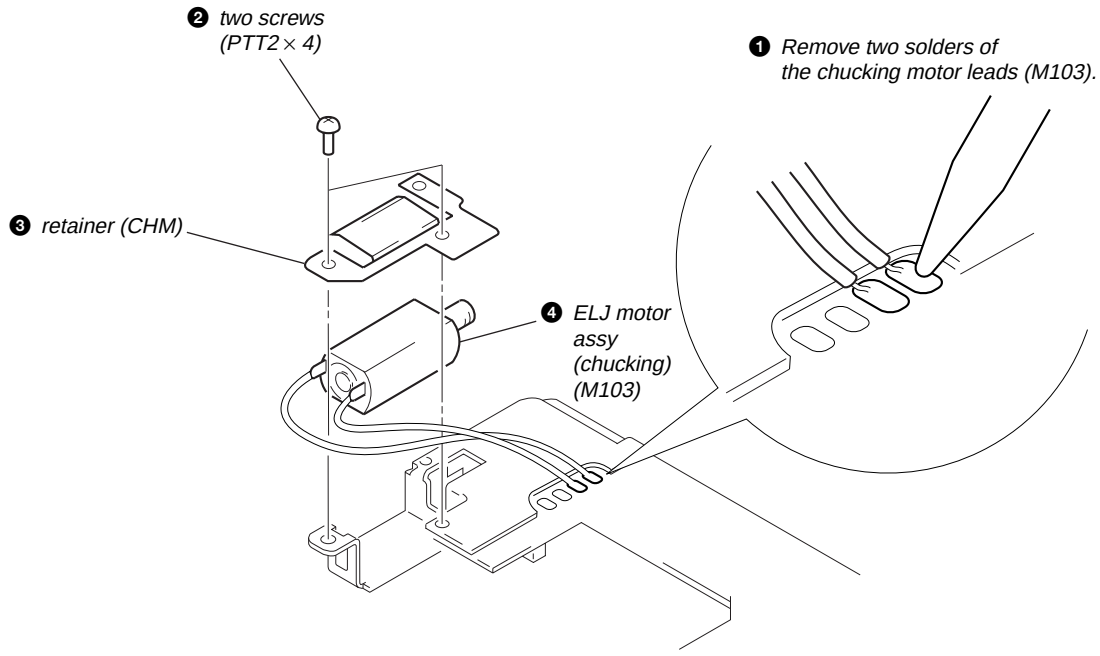
2-11. SLED MOTOR ASSY (251) (M101), OPTICAL PICK-UP (KSS-720A)



2-12. LSW BOARD, SPINDLE MOTOR (S) SUB ASSY (M102)


❽ two precision screws (P1.7 × 2.2)
❼
❸ spring (chucking)
❻ retainer (disc)
❶ precision screw (P2 × 2.5)
❹ precision screw (P2 × 2.2)
❺ bracket (CP)
❷ LSW board
❾ Remove the spindle motor (S) sub assy (M102) in the direction of the arrow.

2-13. ELJ MOTOR ASSY (CHUCKING) (M103)



SECTION 3
MECHANISM DECK ASSEMBLY

• This set can be disassembled in the order shown below.

3-1. ASSEMBLY FLOW

3-2. OPTICAL PICK-UP COMPLETE ASSY (Page 14)

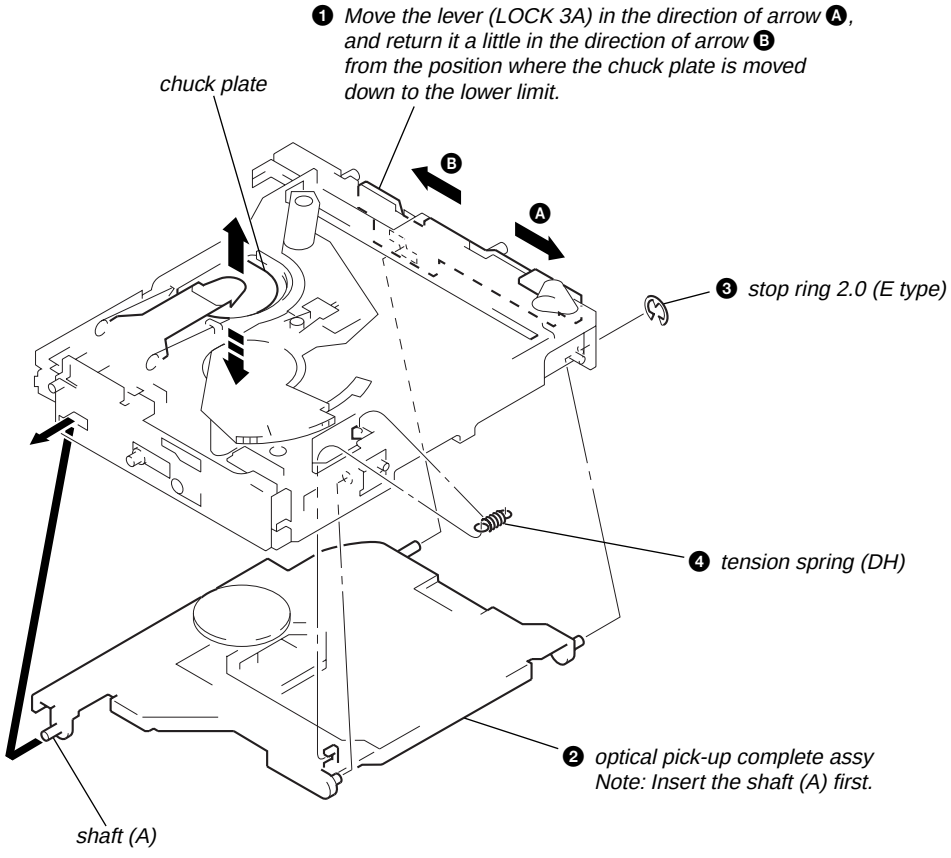
↓

3-3. GEAR (LOMINI)/ (LOAD CAM) ASSY (Page 15)

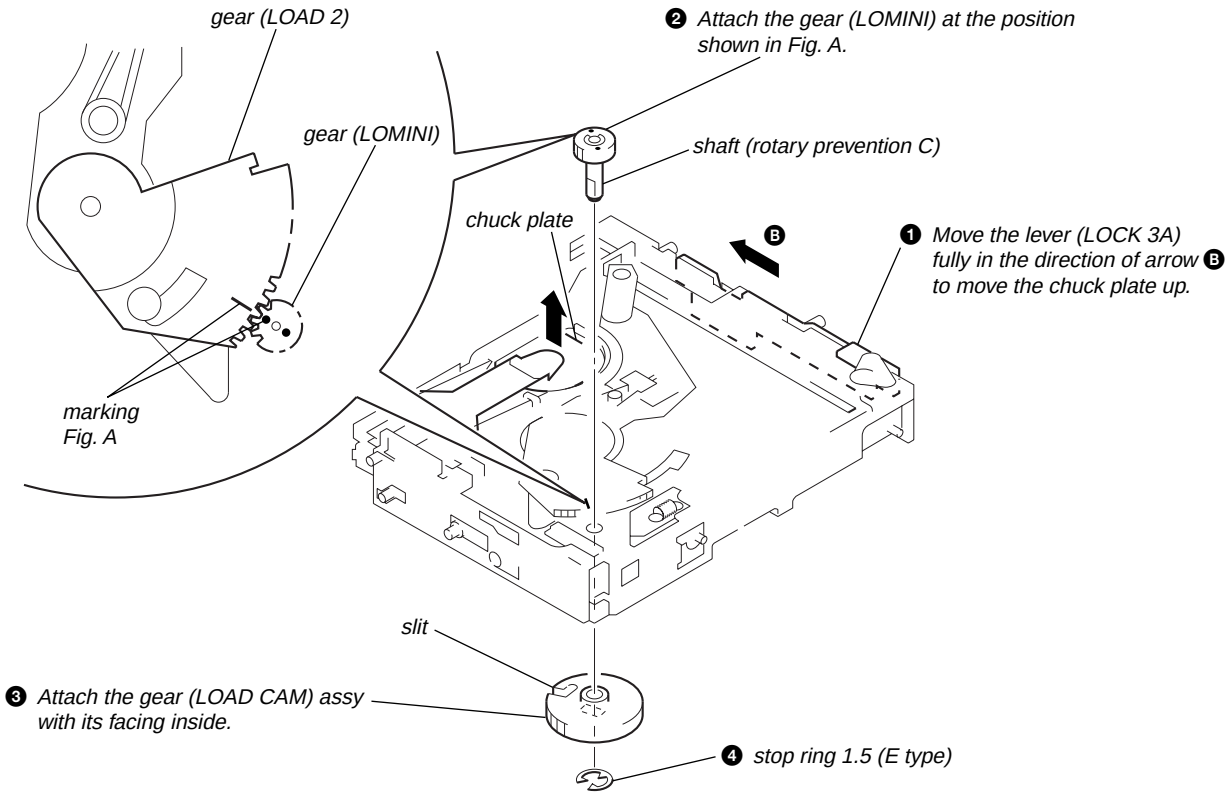
↓

3-4. OPERATION CHECK (Page 15)

3-2. OPTICAL PICK-UP COMPLETE ASSY

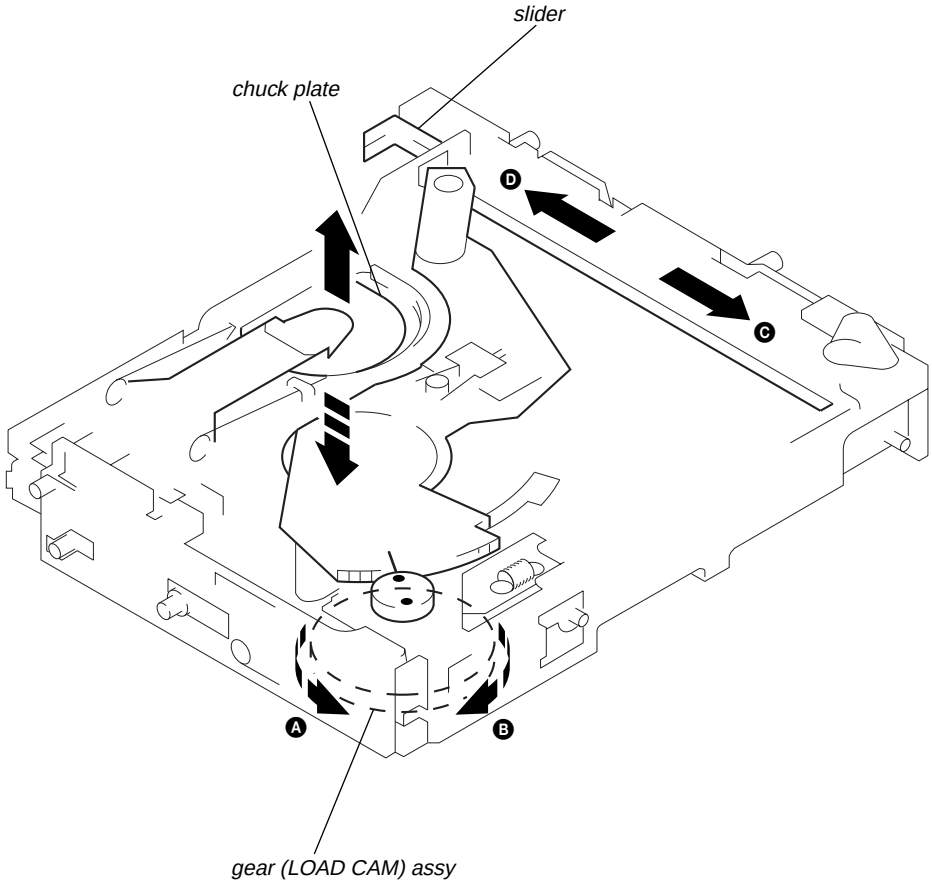

❶ Move the lever (LOCK 3A) in the direction of arrow Ⓐ, and return it a little in the direction of arrow Ⓑ from the position where the chuck plate is moved down to the lower limit.
chuck plate
Ⓑ
Ⓐ
❸ stop ring 2.0 (E type)
❹ tension spring (DH)
❷ optical pick-up complete assy
Note: Insert the shaft (A) first.
shaft (A)

3-3. GEAR (LOMINI)/(LOAD CAM) ASSY


gear (LOAD 2)
gear (LOMINI)
marking
Fig. A
❷ Attach the gear (LOMINI) at the position shown in Fig. A.
shaft (rotary prevention C)
chuck plate
❶ Move the lever (LOCK 3A) fully in the direction of arrow Ⓑ to move the chuck plate up.
slit
❸ Attach the gear (LOAD CAM) assy with its facing inside.
❹ stop ring 1.5 (E type)

3-4. OPERATION CHECK

❶ *Confirm that the slider moves in the direction of arrow Ⓒ to move down the chuck plate if the gear (LOAD CAM) is rotated in the direction of arrow Ⓐ or the chuck plate moves up and the slider moves in the direction of arrow Ⓓ if the gear is rotated in the direction of arrow Ⓑ.*

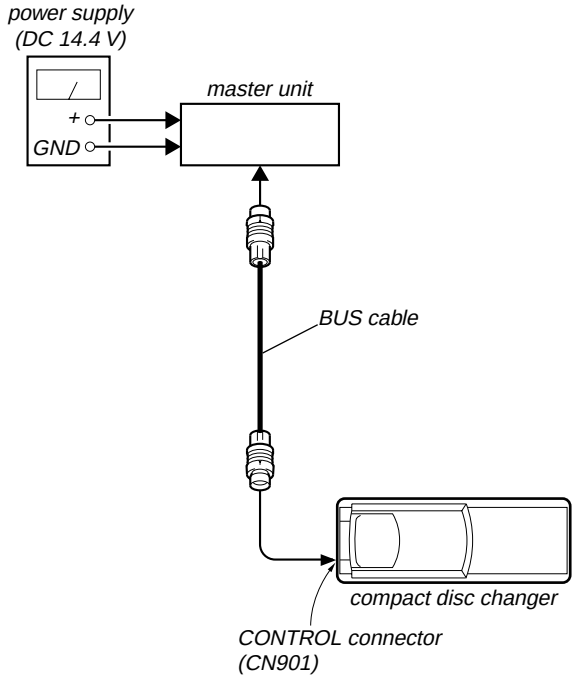


SECTION 4
MECHANICAL ADJUSTMENT

• Elevator Height (Address) Adjustment

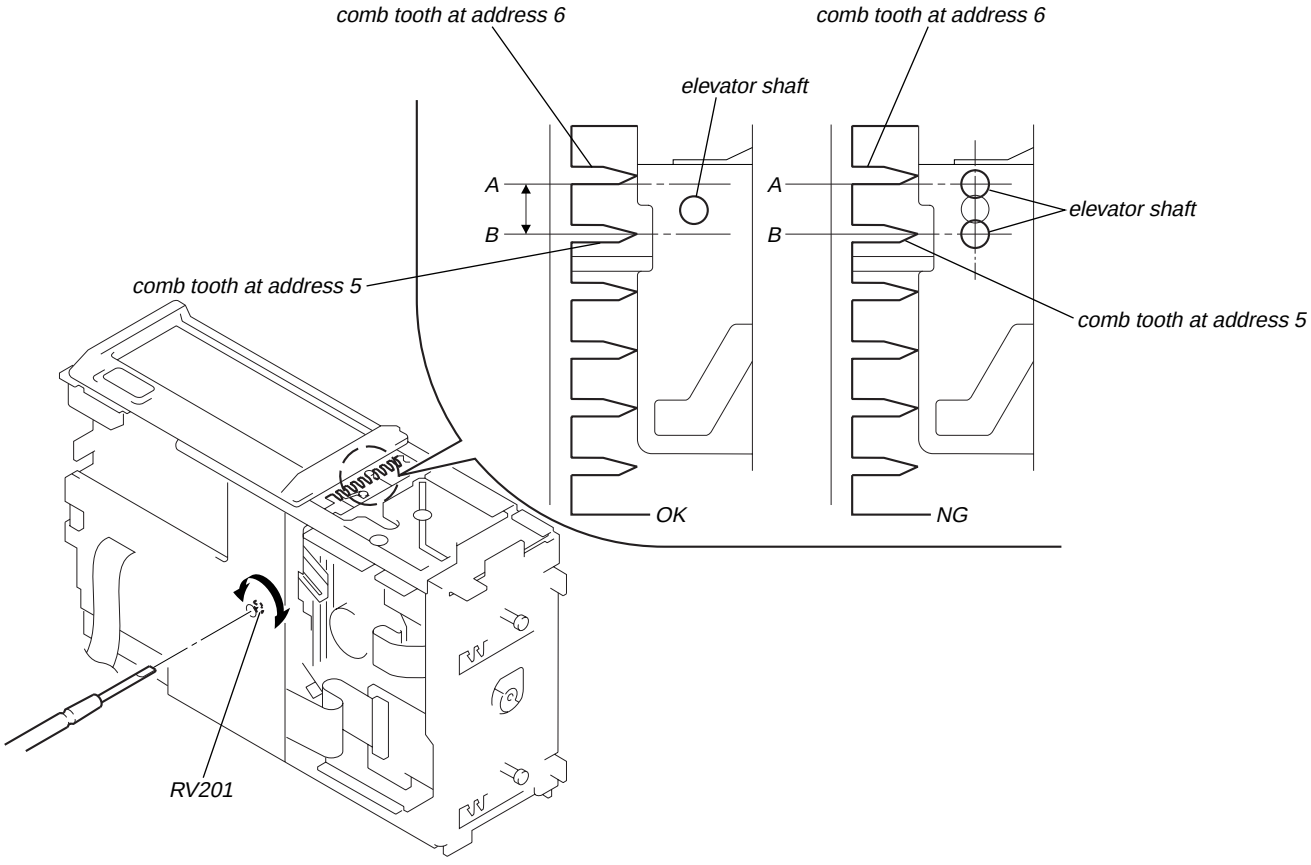
Note: This adjustments is necessary when the system controller (IC201), variable resistor (RV201), slider (R), slider (L), or chassis (ELV) was replaced for any repair.

Connection:



Adjustment Method:

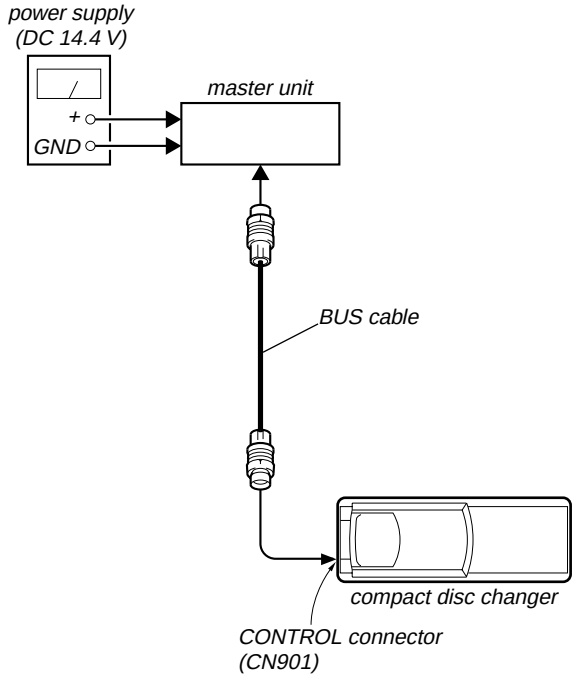
1. Connect this set to the master unit (e.g. MDX-C7970/C7970R), load a disc magazine, and place the set vertically as shown below.
2. Connect the regulated power supply to the master unit, and turn the power on.
3. Press the DISC button on the master unit and select DISC 5.
4. At this time, if the elevator shaft does not position between comb teeth A and B at addresses 5 and 6 as shown below, adjust the following.
5. Press repeatedly the DISC + and – buttons on the master unit so that the elevator shafts moves from address 6 to address 5, or from 5 to 6. At this time, adjust RV201 on the main board so that the elevator shaft positions smoothly between comb teeth A and B.
6. Further, place the set horizontally and make same adjustment as mentioned above.
7. After adjustment at addresses 5 to 6 is finished, check all operations from addresses 1 to 10 with the set placed vertically and horizontally respectively to confirm that the elevator shaft positions in a range between comb teeth A to B.



SECTION 5
ELECTRICAL CHECK

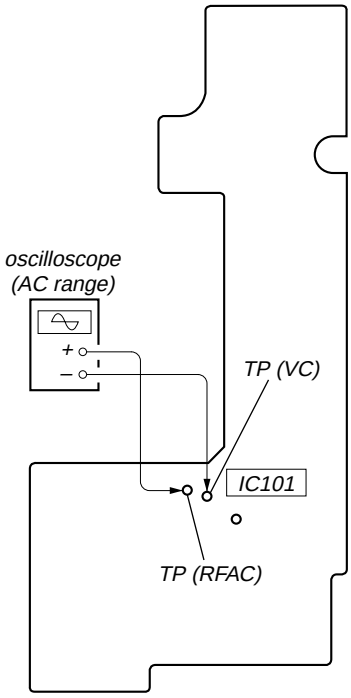
Note:
1. This check is performed with the set placed horizontally.
2. Power supply voltage: DC14.4 V (more than 3 A).
3. Be sure to use the disc "YEDS-18" parts code: 3-702-101-01, but only when indicated.

Connection:



Focus Bias Check

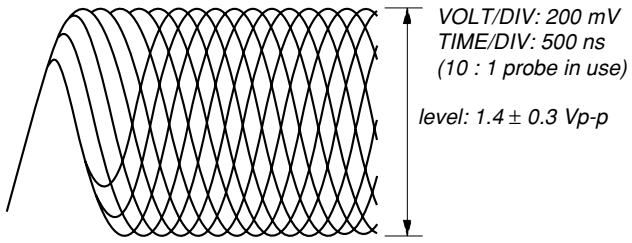
Connection:
– RF Board (Component Side) –



Procedure:
1. Connect the oscilloscope to TP (RFAC) and TP (VC) on the RF board.
2. Put the set into play mode by loading the disc (YEDS-18).
3. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note:
Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

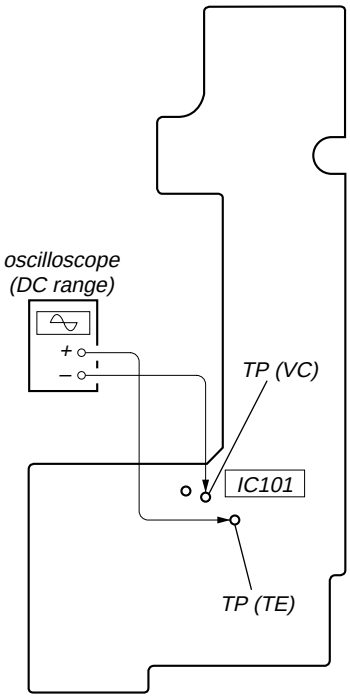
RF signal waveform



When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Tracking Offset Check

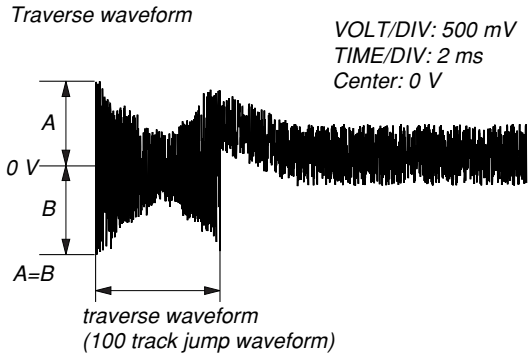
Connection:
– RF Board (Component Side) –



Procedure:

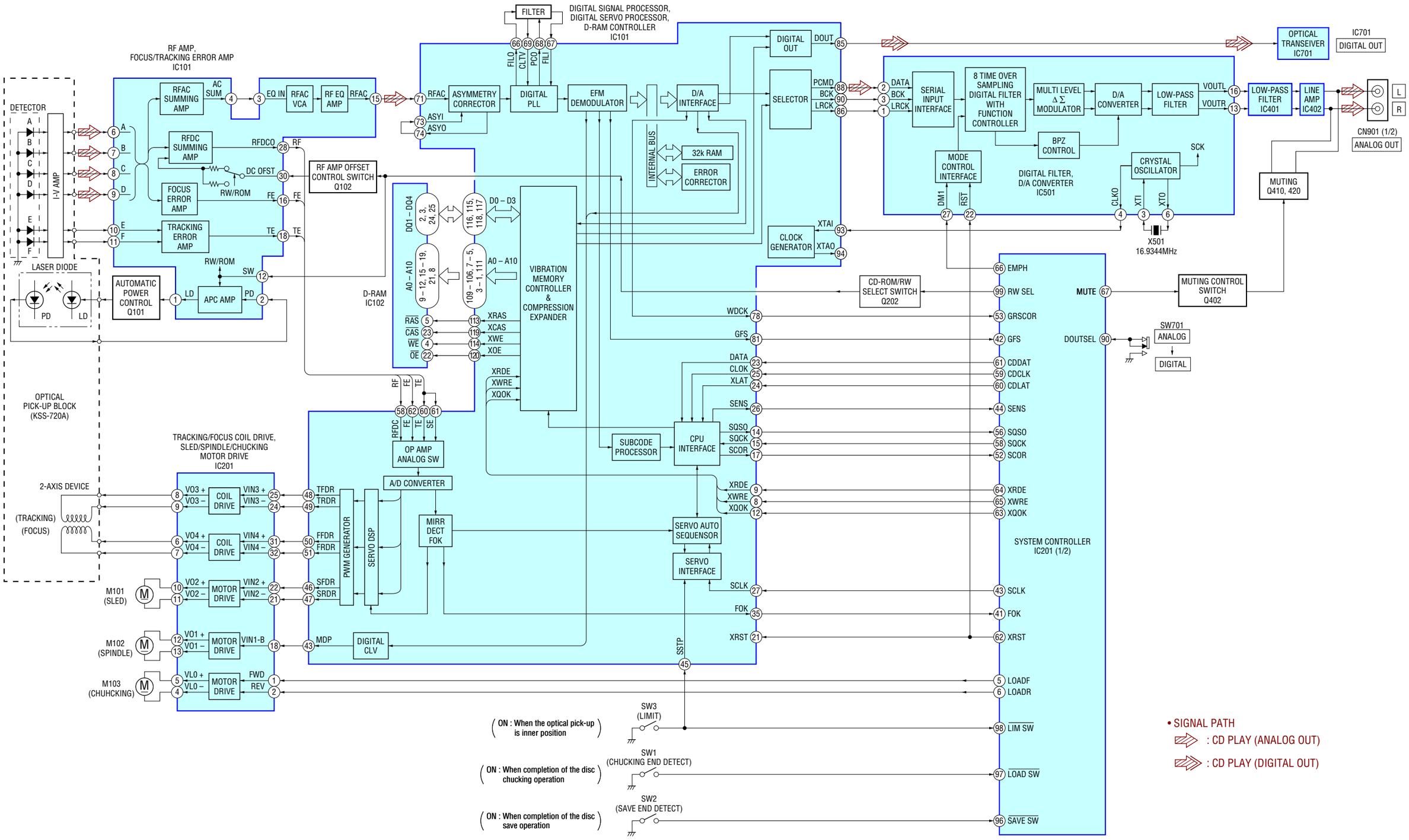
1. Connect the oscilloscope to TP (TE) and TP (VC) on the RF board.
2. Put the set into play mode by loading the disc (YEDS-18).
3. Press the |◄◄ AMS ►►| button on the master unit, and check the traverse waveform*.
4. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 V dc, and check this level.

   * Traverse waveform: This is the tracking error wave form appears when crossing the track.

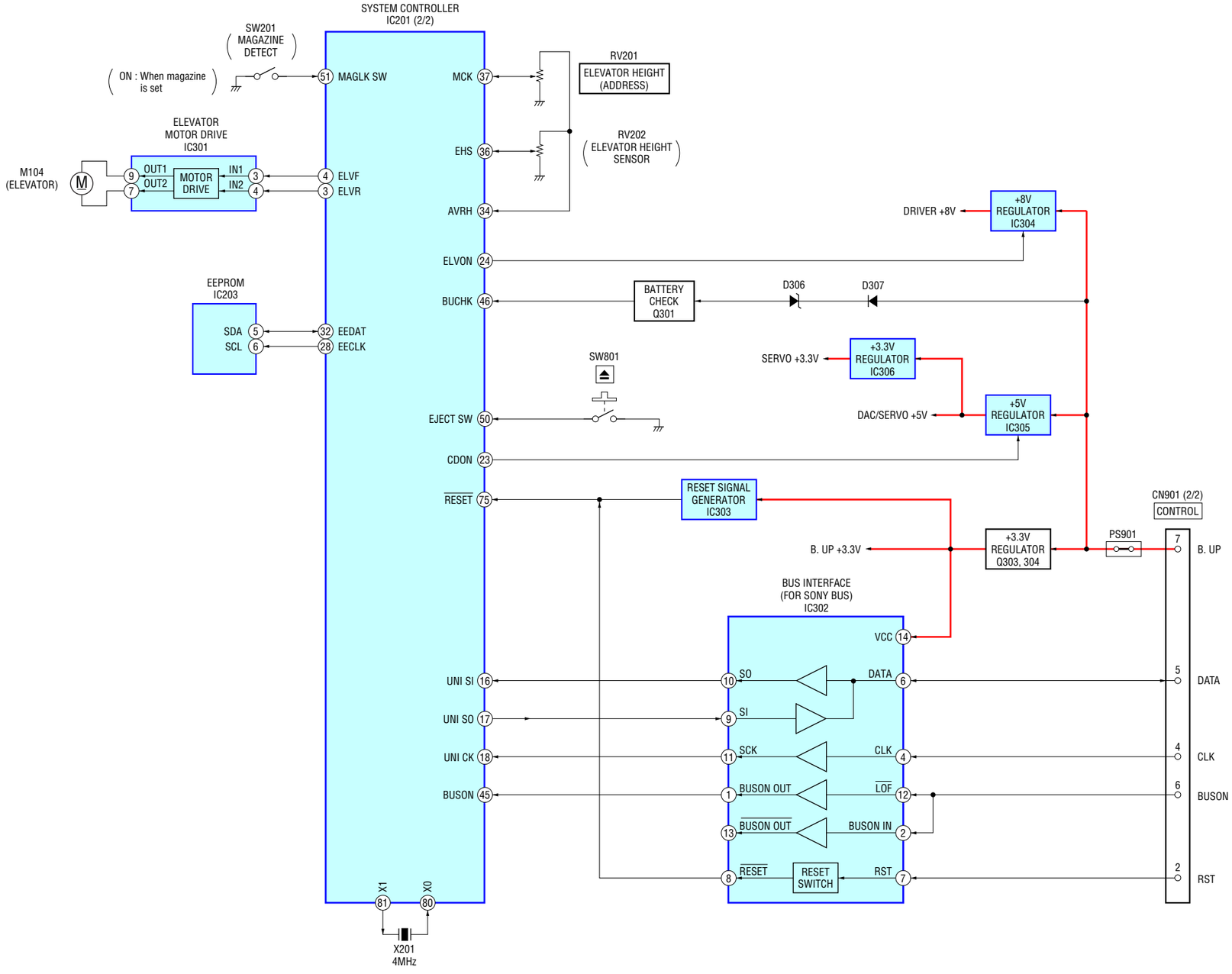


SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM – SERVO Section –



6-2. BLOCK DIAGRAM – BUS CONTROL/POWER SUPPLY Section –



6-3. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- △ : internal component.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

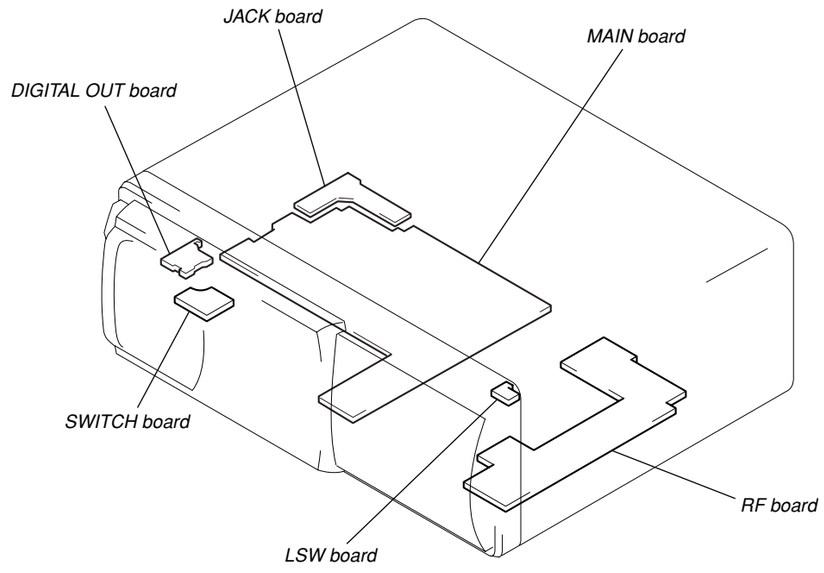
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from CD changer controller.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  ∗ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD PLAY (ANALOG OUT)
  ⇨ : CD PLAY (DIGITAL OUT)

- **Circuit Boards Location**

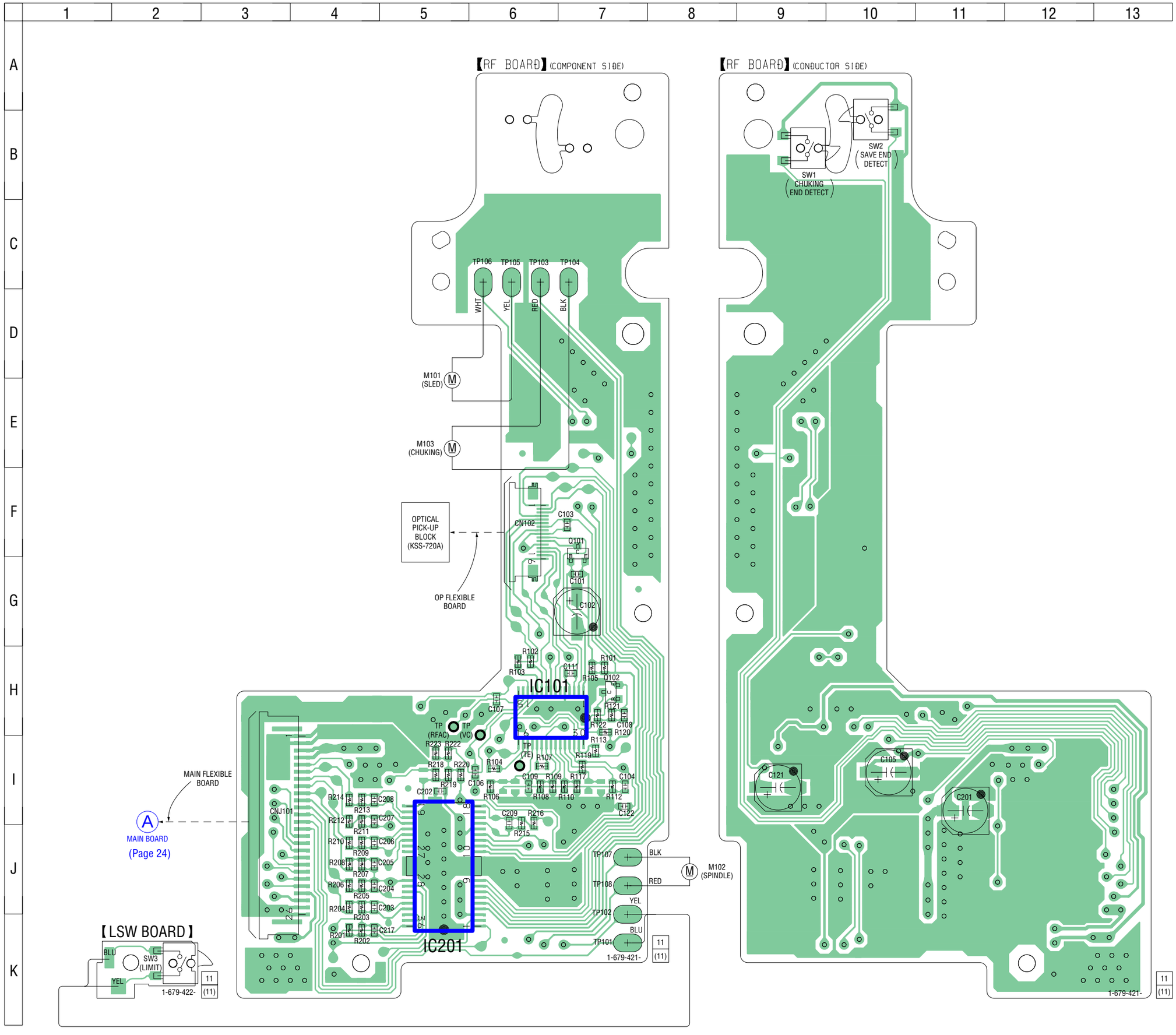


6-4. PRINTED WIRING BOARDS – RF/LSW Boards –

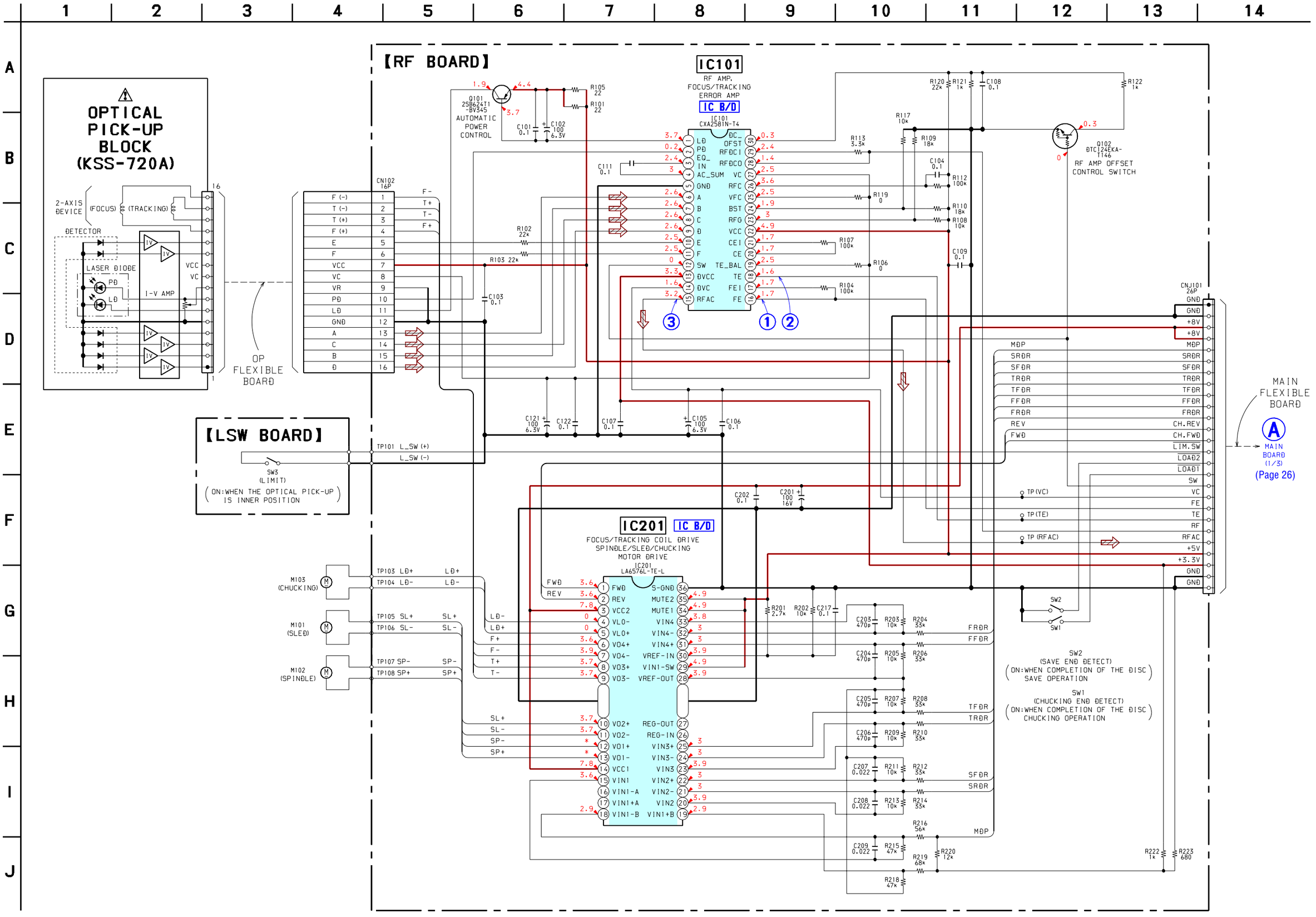
• See page 21 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
IC101	H-6
IC201	J-5
Q101	F-7
Q102	H-7



6-5. SCHEMATIC DIAGRAM – RF/LSW Boards – • See page 30 for for Waveforms. • See page 30 for IC Block Diagrams.

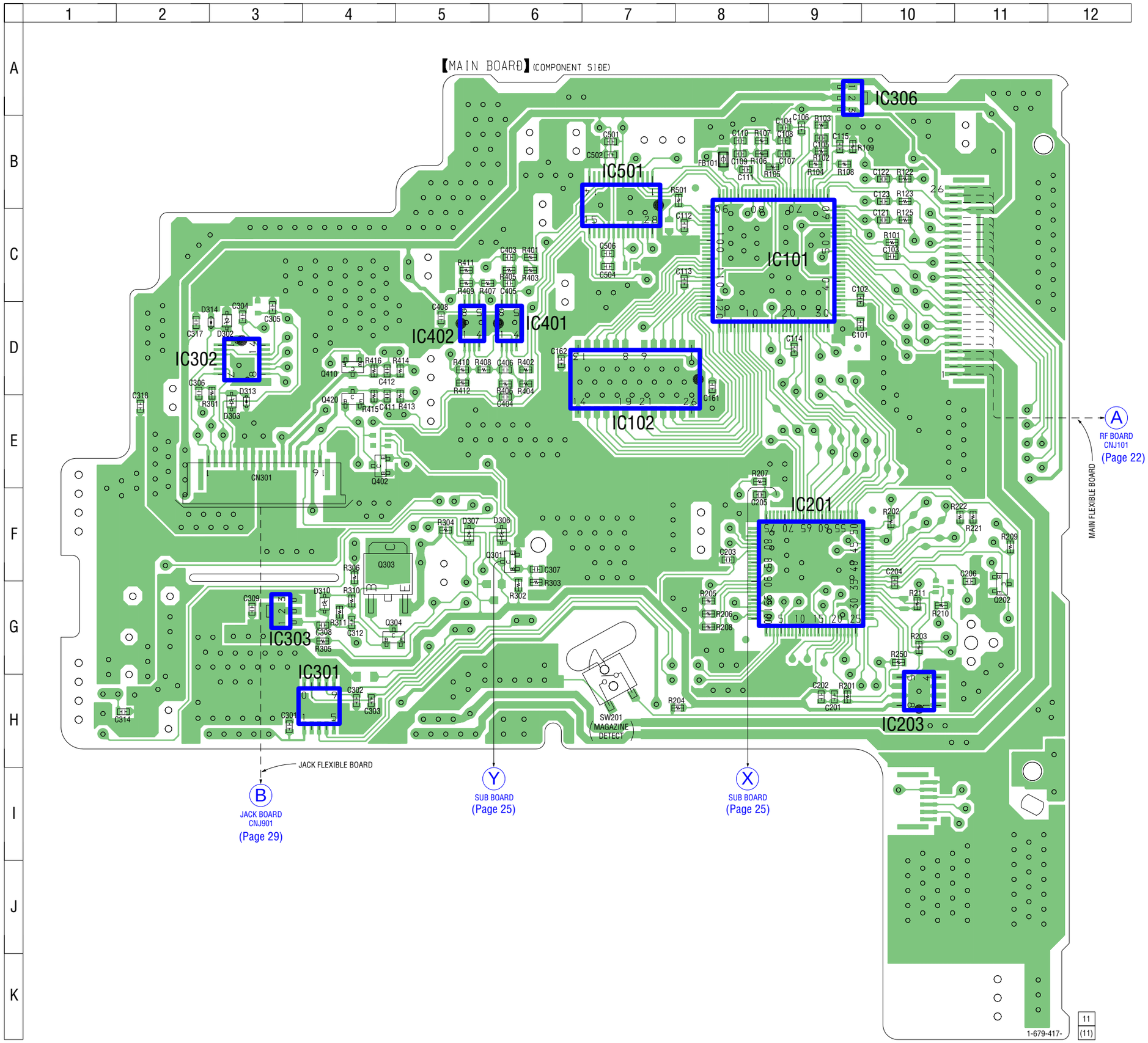


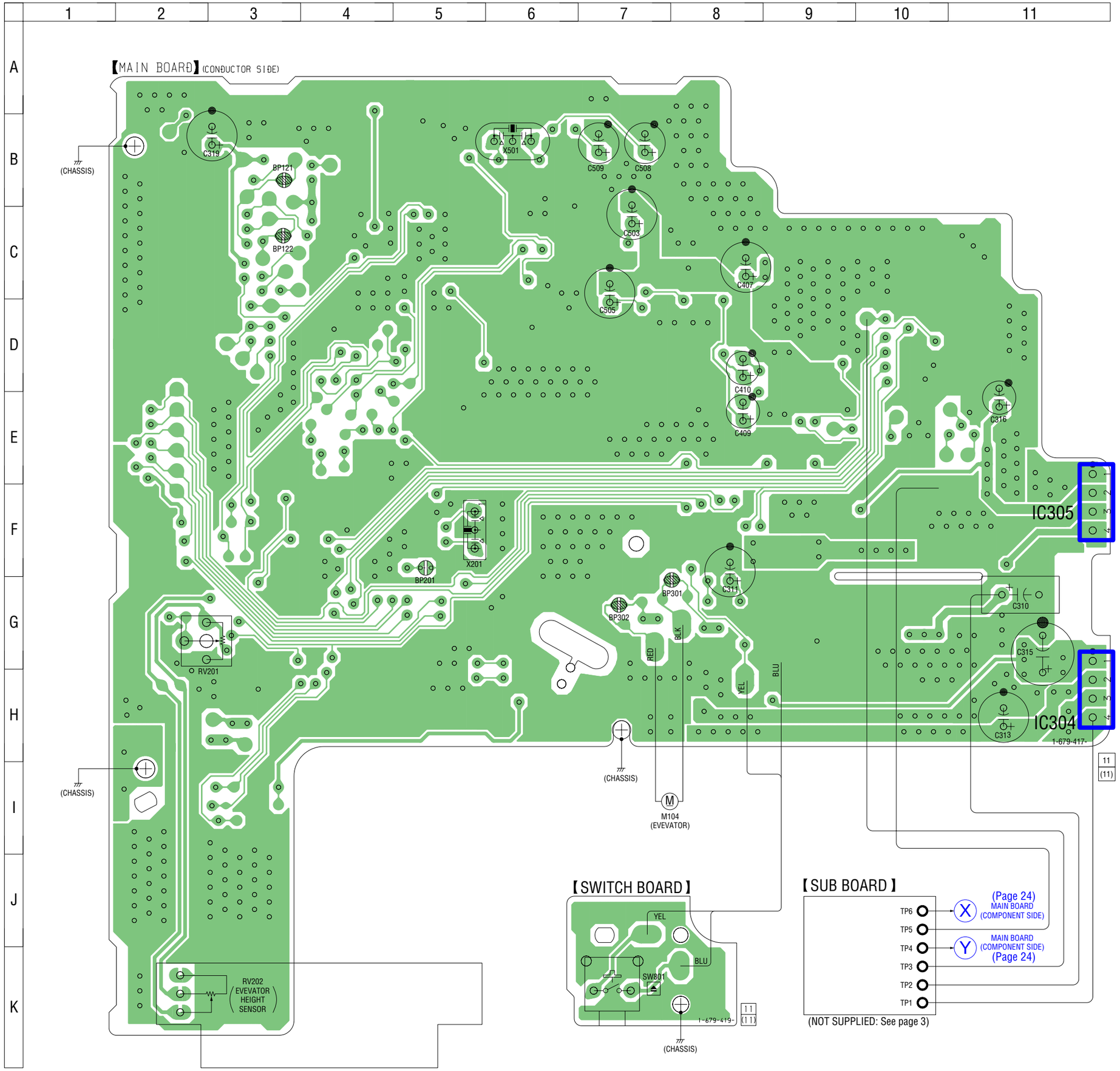
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

6-6. PRINTED WIRING BOARDS – MAIN Board (Component Side) – • See page 21 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
D302	D-3
D303	E-3
D306	F-6
D307	F-5
D310	G-4
D313	E-3
D314	D-3
IC101	C-9
IC102	D-7
IC201	F-9
IC203	H-10
IC301	H-4
IC302	D-3
IC303	G-3
IC306	A-9
IC401	D-6
IC402	D-5
IC501	B-7
Q202	G-11
Q301	F-6
Q303	F-4
Q304	G-4
Q402	E-4
Q410	D-4
Q420	E-4





- **Semiconductor Location**

Ref. No.	Location
IC304	H-11
IC305	F-11

6-8. SCHEMATIC DIAGRAM – MAIN Board (1/3) – • See page 30 for Waveforms. • See page 30 for IC Block Diagrams.

【MAIN BOARD】(1/3)

IC101
ĐIGITAL SIGNAL PROCESSOR,
ĐIGITAL SERVO PROCESSOR,
Đ-RAM CONTROLLER
IC101
CXĐ3027R

IC102
Đ-RAM
IC B/Đ
IC102
MSM51V17400Đ

IC B/Đ

MAIN FLEXIBLE BOARĐ
A
RF BOARĐ CNJ101
(Page 23)

TP101 GNĐ, GNĐ, +8V, +8V, MĐP, SRĐR, SFĐR, TRĐR, TFĐR, FFĐR, FRĐR, CH.REV, CH.FWĐ, LIM.SW, LOADƆ2, LOADƆ1, SW, VC, FE, TE, RF, RFAC, +5V, +3.3V, GNĐ, GNĐ
TP102 TP103 MĐP TP104 SRĐR TP105 SFĐR TP106 TRĐR TP107 TFĐR TP108 FFĐR TP109 FRĐR TP110 REV TP111 FWĐ TP112 TP113 LOADƆ2 TP114 LOADƆ1 TP115 SW TP116 TP117 TP118 TP119 TP120 TP121 TP122 TP123

BP121 TP125 R122 33k R123 100k
BP122 TP126 R125 33k
C121 220p C122 220p C123 0.1
R101 33k
C101 0.1 C102 0.1 C103 0.1 C114 0.01 C113 0.1 C161 0.1 C162 0.1 C112 0.1 C111 0.1
FB101
R104 3.3k R103 3.5k R105 1M R106 470k R107 10k R108 470k R102 10k C104 0.0015 C105 0.047 C106 0.0033 C107 220p C108 0.1 C109 0.01 C110 1 R109 1M C115 1

SCLK SENS CLOK XLAT ĐATA XRST SCOR SQCK SQSO XQOK XRĐE XWRE A4 A5 A6 A7 A8 A9

R4M ATSK XSOE SCLK SENS CLOK XLAT ĐATA SYSM XRST EXCK SBSO VSSO SCOR SCSY SGCK SGSO LRMU XQOK XWIH XEMP XRĐE XWRE A4 A5 A6 DVSS A7 A8 A9

VĐĐ0 COUT MIRR ĐFCT FOK PWMI LOCK HPR HPM HPL VĐĐ1 C176 MĐP MĐS SSTP SFĐR SRĐR TFĐR TRĐR FFĐR FRĐR VSS1 TEST TES1 AVĐĐ0 IGEN AVSS0 RFĐC CE TE

XOE XCAS Đ2 Đ3 Đ0 Đ1 XWE XRAS A11 A10 ĐVĐĐ A0 A1 A2 A3 AVĐĐ2 LOUT2 AIN2 AOUT2 AVSS2 AVSS1 AOUT1 AIN1 LOUT1 AVĐĐ1 XVSS XTAO XTAI XVĐĐ BCKI

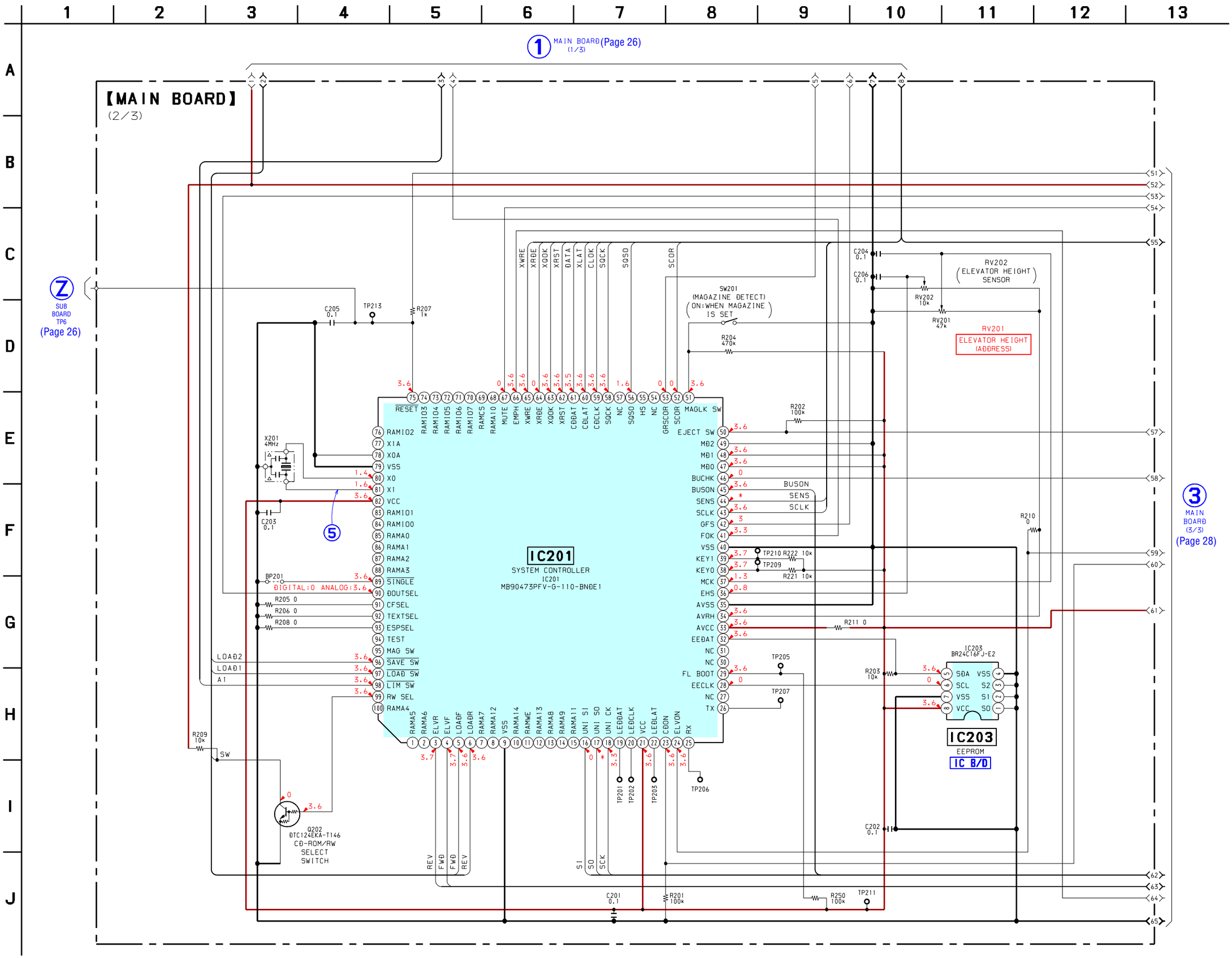
SE FE VC VPCO VCTL FILO FILI PCO CLTV AVSS3 RFAC BIAS ASYI ASYO AVĐĐ3 XTSL VSS2 WĐCK XUGF XPCK GFS C2PO WFCK VĐĐ2 ĐOUT LRCK LRCKI PCMĐ PCMĐI BCK

IC102 VCC ĐQ1 ĐQ2 WE RAS NC A10 A0 A1 A2 A3 VCC ĐQ0 ĐQ1 ĐQ2 ĐQ3 CAS OE A9 VSS

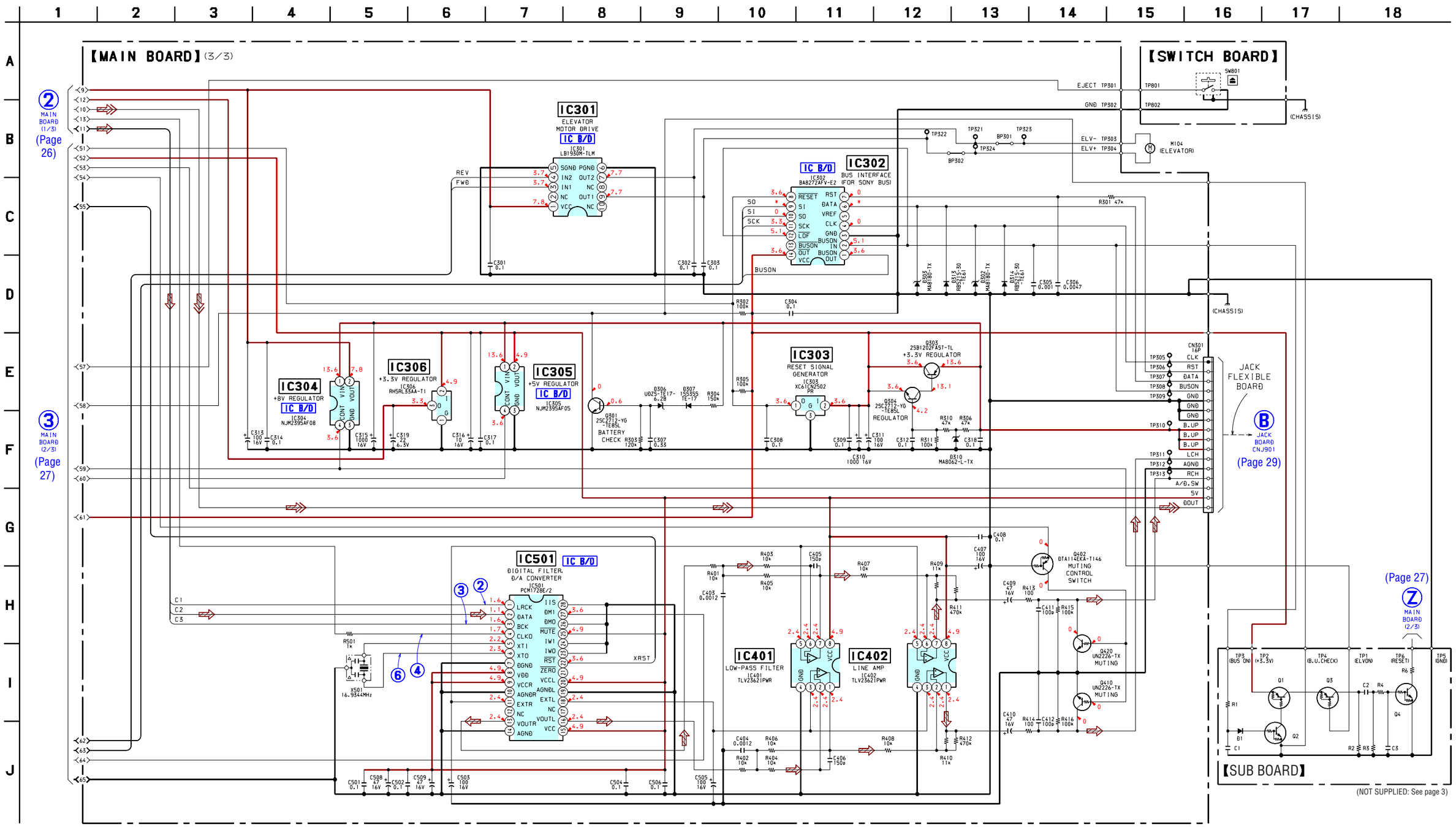
1 MAIN BOARĐ (2/3) (Page 27)
2 MAIN BOARĐ (3/3) (Page 28)

6-9. SCHEMATIC DIAGRAM – MAIN Board (2/3) –

• See page 30 for Waveform. • See page 30 for IC Block Diagram.

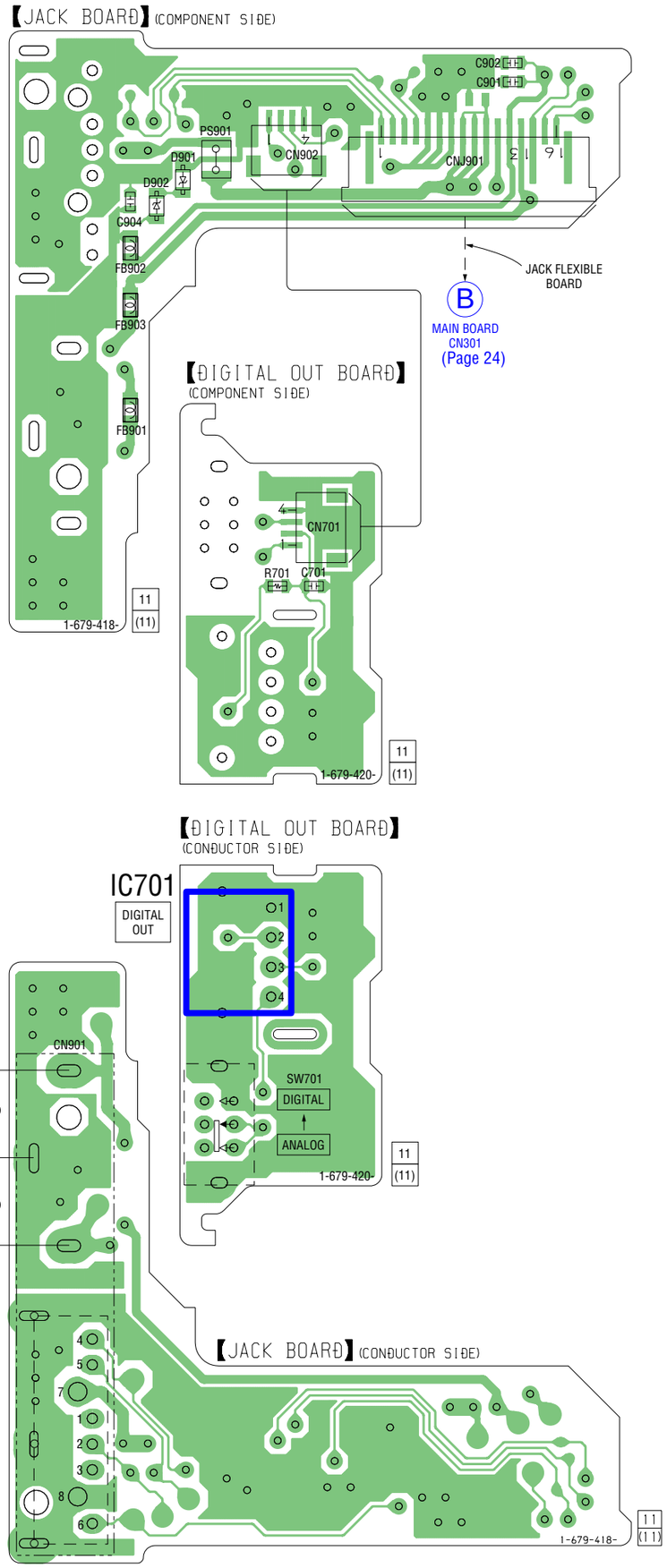


6-10. SCHEMATIC DIAGRAM – MAIN (3/3)/SWITCH Boards – • See page 30 for Waveforms. • See page 30 for IC Block Diagrams.

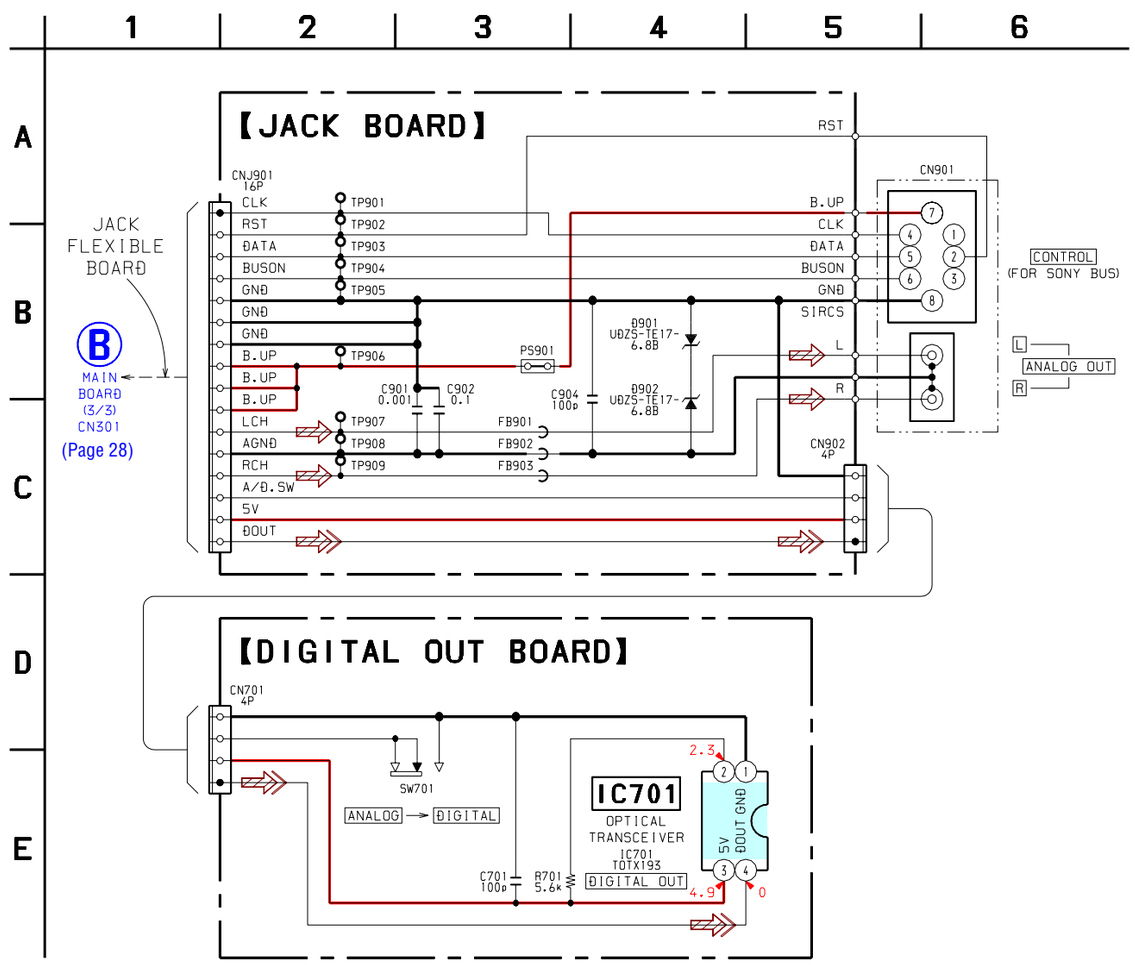

【MAIN BOARD】(3/3)
【SWITCH BOARD】
IC301 ELEVATOR MOTOR DRIVE IC B/D IC301 LB1930M-TLM
IC302 BUS INTERFACE (FOR SONY BUS) IC B/D IC302 BA8272AFV-E2
IC303 RESET SIGNAL GENERATOR IC303 XC61CN2502
IC304 +8V REGULATOR IC B/D IC304 NJM2395AF08
IC305 +5V REGULATOR IC B/D IC305 NJM2395AF05
IC306 +3.3V REGULATOR IC306 RH5RL33AA-TI
IC401 LOW-PASS FILTER IC401 TLV2362IPWR
IC402 LINE AMP IC402 TLV2362IPWR
IC501 DIGITAL FILTER, D/A CONVERTER IC B/D IC501 PCM1728E/2
Q303 2SB1202FAST-TL +3.3V REGULATOR
Q304 2SC2712-YG -TE85L REGULATOR
Q301 2SC2712-YG -TE85L BATTERY CHECK
Q402 DTA114EKA-T146 MUTING CONTROL SWITCH
Q420 UN2226-TX MUTING
Q410 UN2226-TX MUTING
M104 (ELEVATOR)
SW801
JACK FLEXIBLE BOARD
CN501 16P
(Page 26)
(Page 27)
(Page 29)
(Page 27)
【SUB BOARD】
(NOT SUPPLIED: See page 3)

6-11. PRINTED WIRING BOARDS – JACK/DIGITAL OUT Boards –

• See page 21 for Circuit Boards Location.



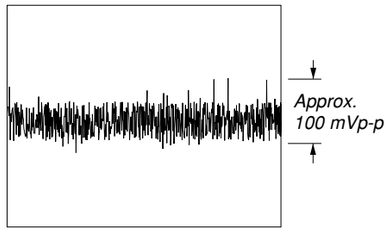
6-12. SCHEMATIC DIAGRAM – JACK/DIGITAL OUT Boards –



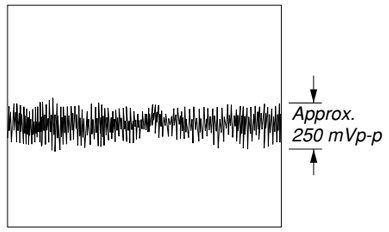
• **Waveforms**

– RF Board –

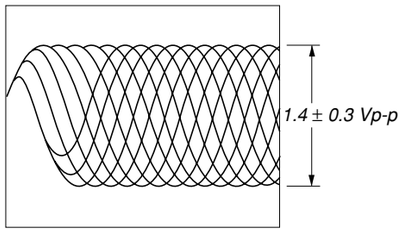
❶ IC101 ⑯ (FE) (CD play mode)



❷ IC101 ⑱ (TE) (CD play mode)

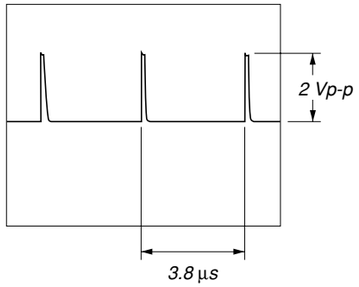


❸ IC101 ⑮ (RFAC) (CD play mode)

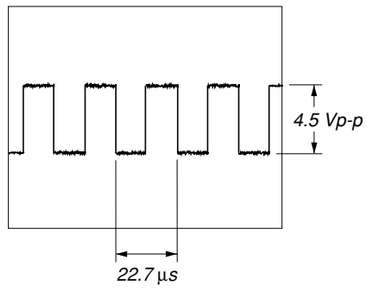


– MAIN Board –

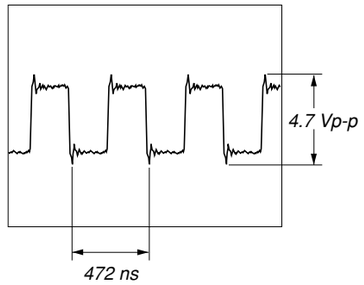
❶ IC101 ㊸ (MDP) (CD play mode)



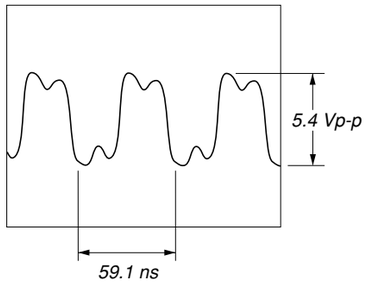
❷ IC101 ㊽ (LRCK), IC501 ① (LRCK) (CD play mode)



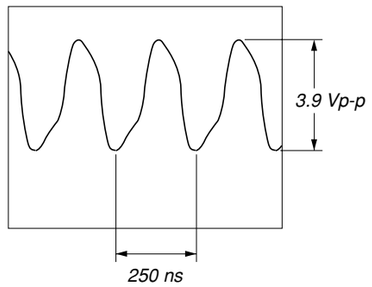
❸ IC101 ㊿ (BCK), IC501 ③ (BCK) (CD play mode)



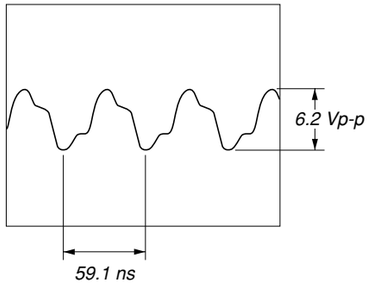
❹ IC101 ㊸ (XTAI), IC501 ④ (CLKO) (CD play mode)



❺ IC201 ㊶ (X1) (CD play mode)



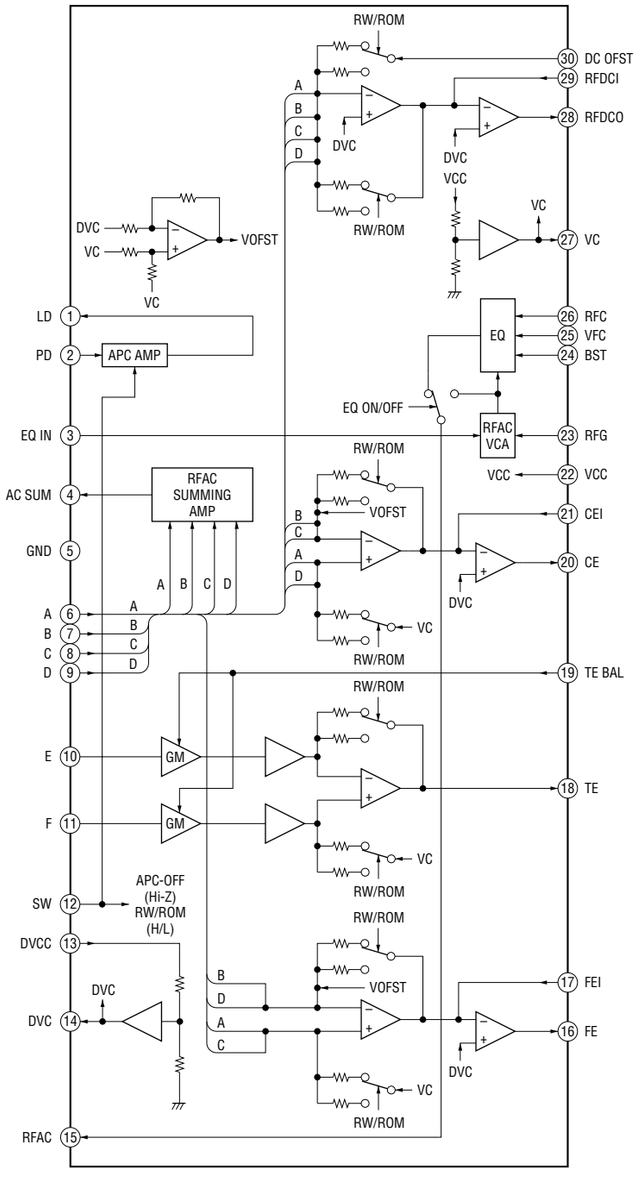
❻ IC501 ⑥ (XTO) (CD play mode)



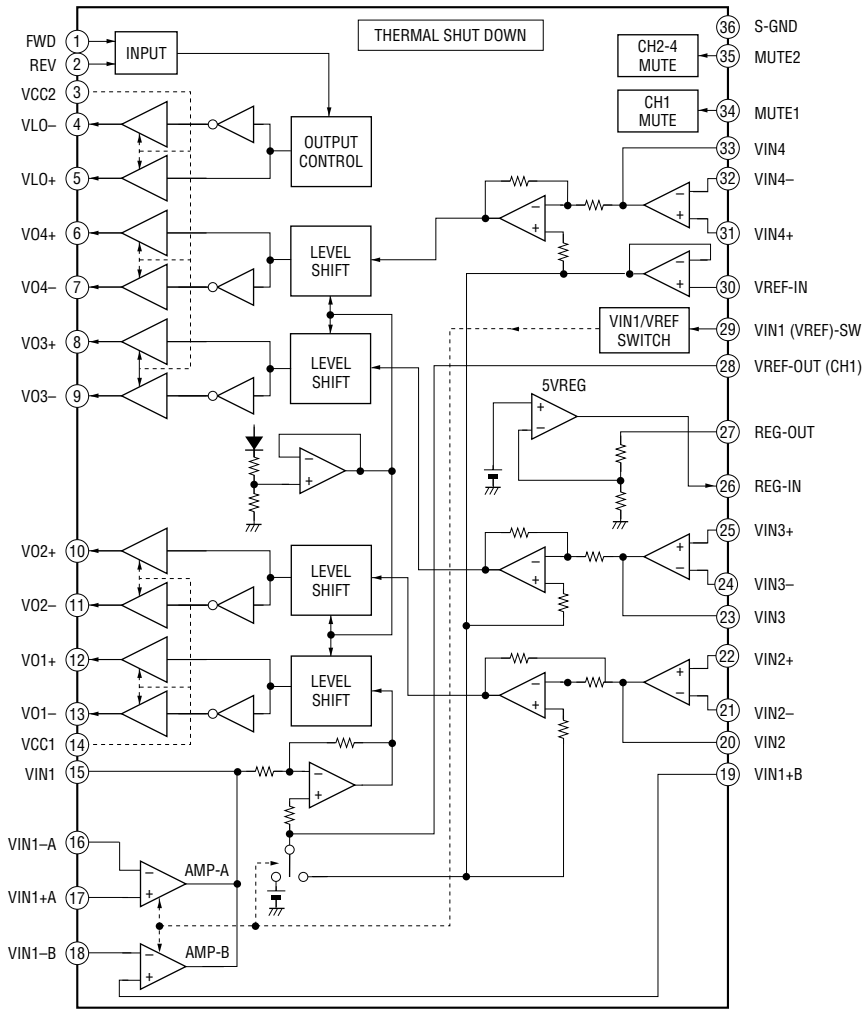
• **IC Block Diagrams**

–RF Board –

IC101 CXA2581N-T4

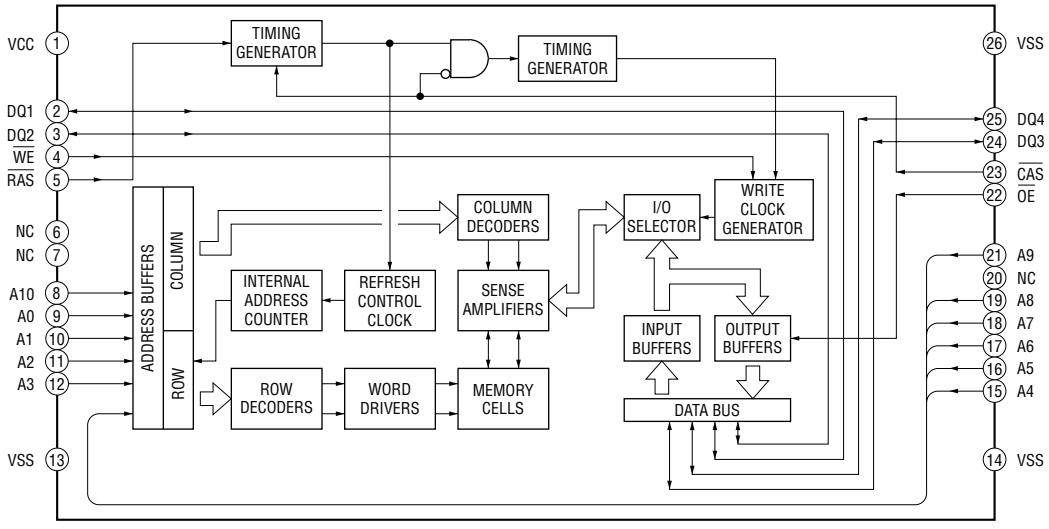


IC201 LA6576L-TE-L

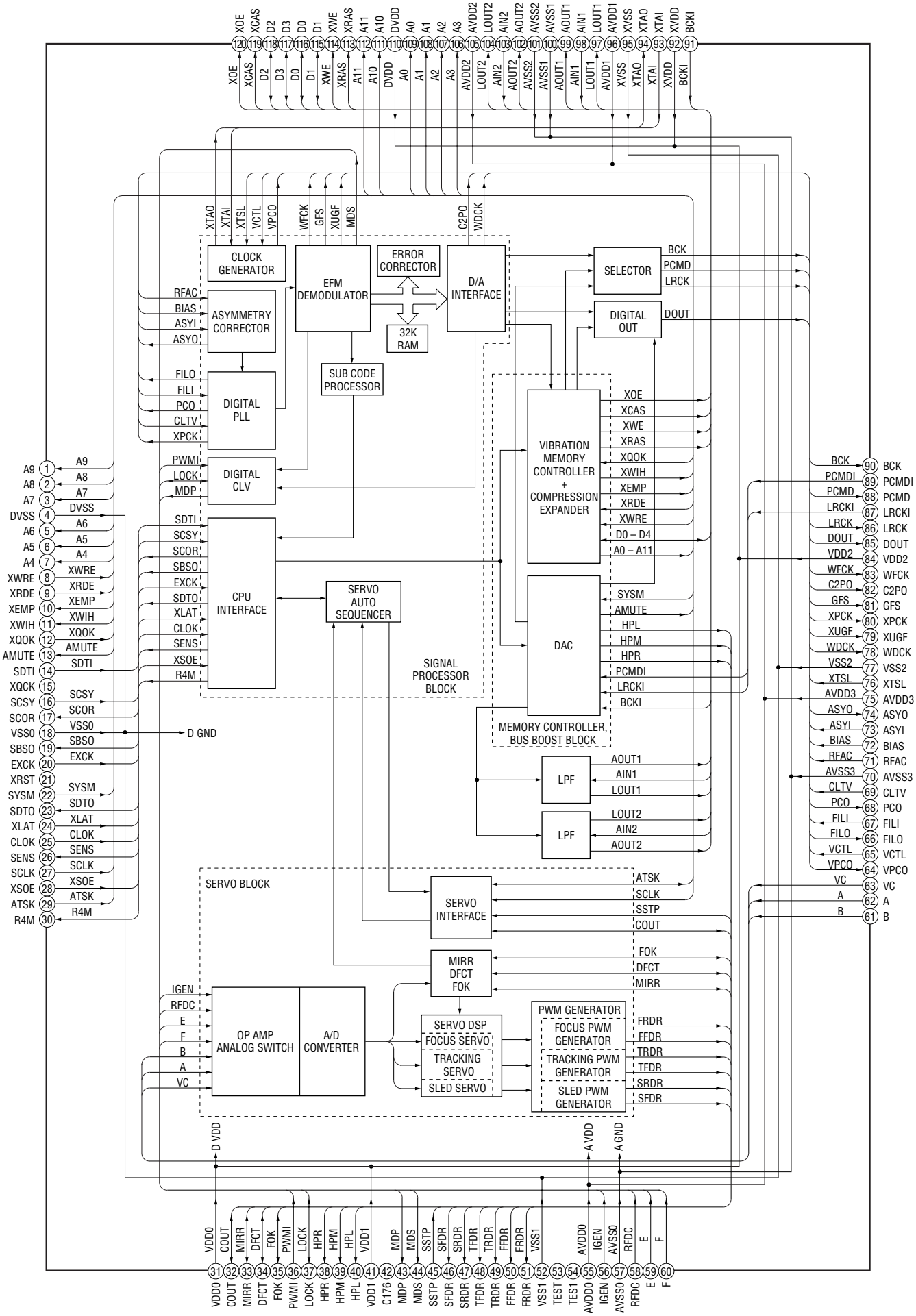


–MAIN Board –

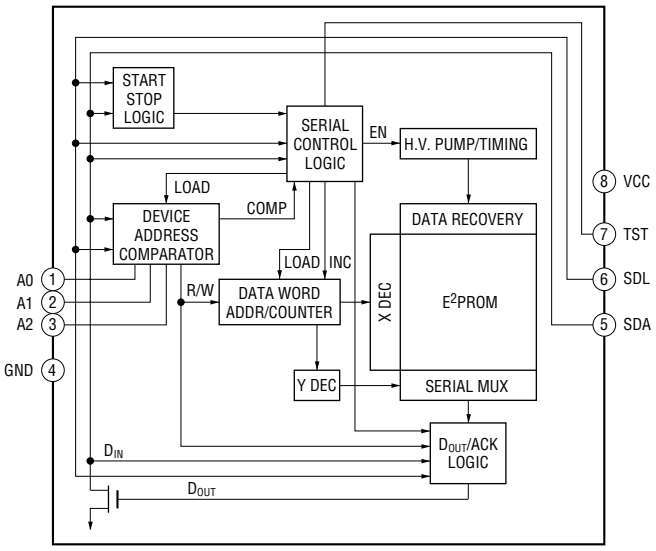
IC102 MSM51V17400D-10TK-FS



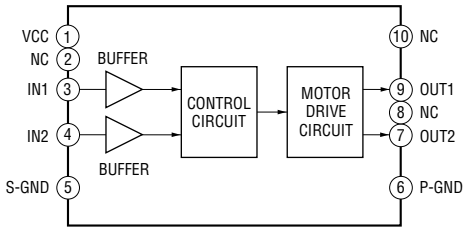
IC101 CXD3027R



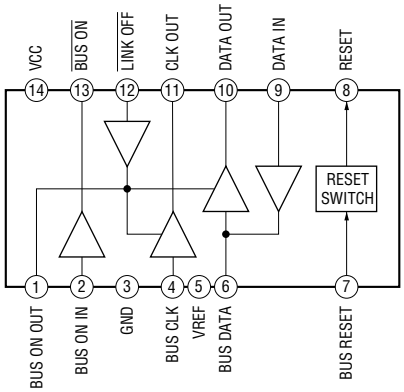
IC203 BR24C16FJ-E2



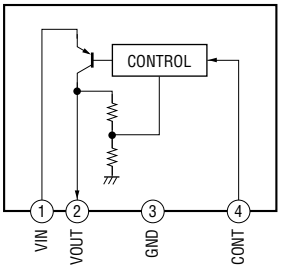
IC301 LB1930M-TLM



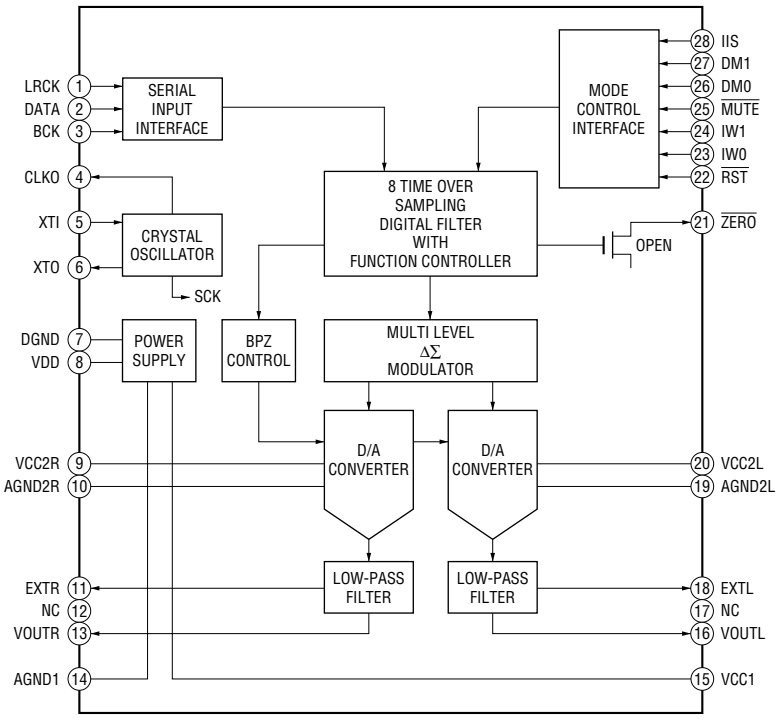
IC302 BA8272AFV-E2



IC304 MJM2395AF08
IC305 MJM2395AF05



IC501 PCM1728E/2K



6-13. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC201 MB90473PFV-G-108-BNDE1 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1, 2	RAMA5, RAMA6	O	Address signal output to the S-RAM Not used (open)
3	ELVR	O	Motor drive signal (elevator down direction) output to the elevator motor drive (IC301) "L" active *1
4	ELVF	O	Motor drive signal (elevator up direction) output to the elevator motor drive (IC301) "L" active *1
5	LOADF	O	Motor drive signal (load chucking direction) output to the chucking motor drive (IC201) "L" active *2
6	LOADR	O	Motor drive signal (save direction) output to the chucking motor drive (IC201) "L" active *2
7, 8	RAMA7, RAMA12	O	Address signal output to the S-RAM Not used (open)
9	VSS	—	Ground terminal
10	RAMA14	O	Address signal output to the S-RAM Not used (open)
11	RAMWE	O	Write enable output to the S-RAM Not used (open)
12 to15	RAMA13, RAMA8, RAMA9, RAMA11	O	Address signal output to the S-RAM Not used (open)
16	UNI SI	I	Serial data input from the SONY bus interface (IC302)
17	UNI SO	O	Serial data output to the SONY bus interface (IC302)
18	UNI CK	I	Serial data transfer clock signal input from the SONY bus interface (IC302)
19	LEDDAT	O	Not used (open)
20	LEDCLK	O	Not used (open)
21	VCC	—	Power supply terminal (+3.3V)
22	LEDLAT	O	Not used (open)
23	CDON	O	D/A converter and servo section power supply on/off control signal output "H": power on
24	ELVON	O	Mechanism deck section power supply on/off control signal output "H": power on
25	RX	I	Input terminal at the flash memory data write mode Not used (open)
26	TX	O	Output terminal at the flash memory data write mode Not used (open)
27	NC	O	Not used (open)
28	EECLK	O	Serial data transfer clock signal output to the EEPROM (IC203)
29	FL BOOT	I	Flash memory data write control signal input terminal "L" active Not used (fixed at "H")
30, 31	NC	O	Not used (open)
32	EEDAT	I/O	Two-way data bus with the EEPROM (IC203)
33	AVCC	—	Power supply terminal (+3.3V) (for A/D converter)
34	AVRH	I	Reference voltage (+3.3V) input terminal (for A/D converter)
35	AVSS	—	Ground terminal (for A/D converter)
36	EHS	I	Elevator height position detection signal input from the RV202 (elevator height sensor) (A/D input)
37	MCK	I	Input of detection signal for the fine adjustment (elevator height (address) adjustment; RV201) of elevator height position (A/D input)
38, 39	KEY0, KEY1	I	Not used (open)
40	VSS	—	Ground terminal
41	FOK	I	Focus OK signal input from the CXD3027R (IC101) "L": NG, "H": OK
42	GFS	I	Guard frame sync signal input from the CXD3027R (IC101) "L": NG, "H": OK
43	SCLK	O	Serial data reading clock signal output to the CXD3027R (IC101)
44	SENS	I	Internal status signal (sense signal) input from the CXD3027R (IC101)
45	BUSON	I	Bus on/off control signal input from the SONY bus interface (IC302) "H": bus on
46	BUCHK	I	Battery detection signal input "L": battery on

Pin No.	Pin Name	I/O	Description
47, 48	MD0, MD1	I	Setting terminal for the CPU operational mode (fixed at “H” in this set)
49	MD2	I	Setting terminal for the CPU operational mode (fixed at “L” in this set)
50	EJECT SW	I	Eject switch (SW801) input terminal “L” active
51	MAGLK SW	I	Magazine detect switch (SW201) input terminal “L”: magazine is set
52	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD3027R (IC101)
53	GRSCOR	I	Subcode sync (S0+S1) detection signal input from the D-RAM controller section on the CXD3027R (IC101)
54	NC	O	Not used (open)
55	HS	O	Normal/high speed playback control signal output terminal “L”: high speed playback Not used (open)
56	SQSO	I	Subcode Q data input from the CXD3027R (IC101)
57	NC	O	Not used (open)
58	SQCK	O	Subcode Q data reading clock signal output to the CXD3027R (IC101)
59	CDCLK	O	Serial data transfer clock signal output to the CXD3027R (IC101)
60	CDLAT	O	Serial data latch pulse signal output to the CXD3027R (IC101)
61	CDDAT	O	Serial data output to the CXD3027R (IC101)
62	XRST	O	System reset signal output to the CXD3027R (IC101) and D/A converter (IC501) “L”: reset
63	XQOK	O	Subcode Q OK pulse signal output to the CXD3027R (IC101) “L” active
64	XRDE	O	D-RAM read enable signal output to the CXD3027R (IC101) “L” active
65	XWRE	O	D-RAM write enable signal output to the CXD3027R (IC101) “L” active
66	EMPH	O	Emphasis control signal output to the D/A converter (IC501) “H”: emphasis on
67	MUTE	O	Audio line muting on/off control signal output “H”: muting on
68	RAMA10	O	Address signal output to the S-RAM Not used (open)
69	RAMCS	O	Chip select enable output to the S-RAM Not used (open)
70 to 74	RAMIO7 to RAMIO3	I/O	Two-way data bus with the S-RAM Not used (open)
75	$\overline{\text{RESET}}$	I	System reset signal input from the SONY bus interface (IC302) and reset signal generator (IC303) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
76	RAMIO2	I/O	Two-way data bus with the S-RAM Not used (open)
77	X1A	O	Sub system clock output terminal Not used (open)
78	X0A	I	Sub system clock input terminal Not used (fixed at “L”)
79	VSS	—	Ground terminal
80	X0	I	Main system clock input terminal (4 MHz)
81	X1	O	Main system clock output terminal (4 MHz)
82	VCC	—	Power supply terminal (+3.3V)
83, 84	RAMIO1, RAMIO0	I/O	Two-way data bus with the S-RAM Not used (open)
85 to 88	RAMA0 to RAMA3	O	Address signal output to the S-RAM Not used (open)
89	$\overline{\text{SINGLE}}$	I	Setting terminal for the single disc/multiple discs mode “L”: single disc mode, “H”: multiple discs mode (fixed at “H”)
90	DOUTSEL	I	Analog/digital select switch (SW701) input terminal “L”: digital, “H”: analog
91	CFSEL	I	Custom file on/off setting terminal “L”: custom file on (fixed at “L”)
92	TEXTSEL	I	CD text mode setting terminal “L”: CD text on, “H”: does not display track name (fixed at “L”)
93	ESPSEL	I	ESP on/off setting terminal “L”: ESP on (fixed at “L”)
94	TEST	I	Test mode setting terminal “L”: test mode Not used (open)
95	MAG SW	I	Magazine in/out detect switch input terminal Not used (open)

Pin No.	Pin Name	I/O	Description
96	$\overline{\text{SAVE SW}}$	I	Save end detect switch (SW2) input terminal “L”: When completion of the disc save operation
97	$\overline{\text{LOAD SW}}$	I	Chucking end detect switch (SW1) input terminal “L”: When completion of the disc chucking operation
98	$\overline{\text{LIM SW}}$	I	Sled limit in detect switch (SW3) input terminal “L”: When the optical pick-up is inner position
99	RW SEL	O	CD-ROM/RW selection signal output “L”: CD-ROM, “H”: CD-RW
100	RAMA4	O	Address signal output to the S-RAM Not used (open)

*1 elevator motor (M104) control

Mode / Terminal	STOP	ELEVATOR UP	ELEVATOR DOWN	BRAKE
ELVF (pin ④)	“H”	“L”	“H”	“L”
ELVR (pin ③)	“H”	“H”	“L”	“L”

*2 chucking motor (M103) control

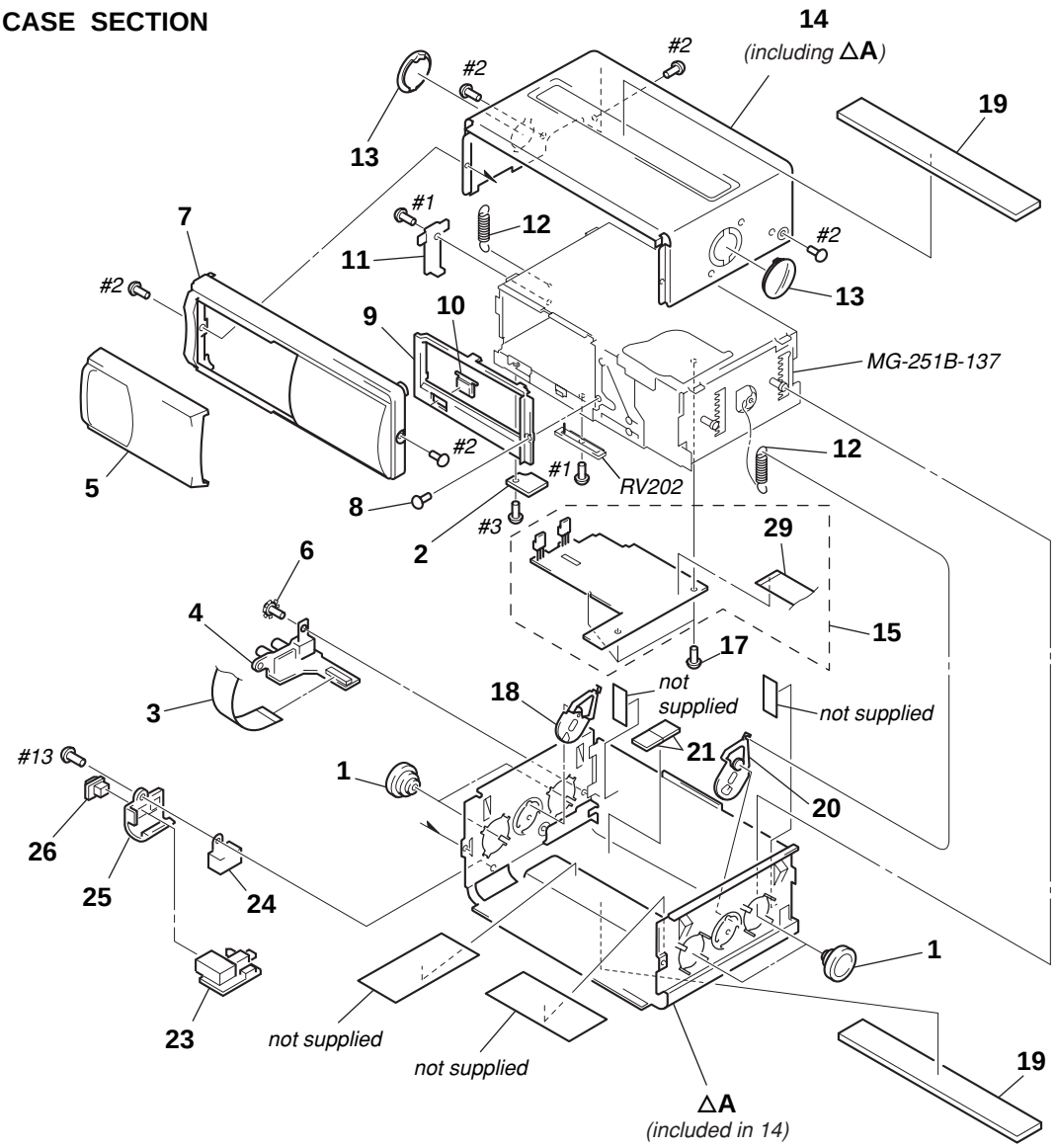
Mode / Terminal	STOP	LOAD CHUCKING	SAVE	BRAKE
LOADF (pin ⑤)	“H”	“L”	“H”	“L”
LOADR (pin ⑥)	“H”	“H”	“L”	“L”

SECTION 7
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

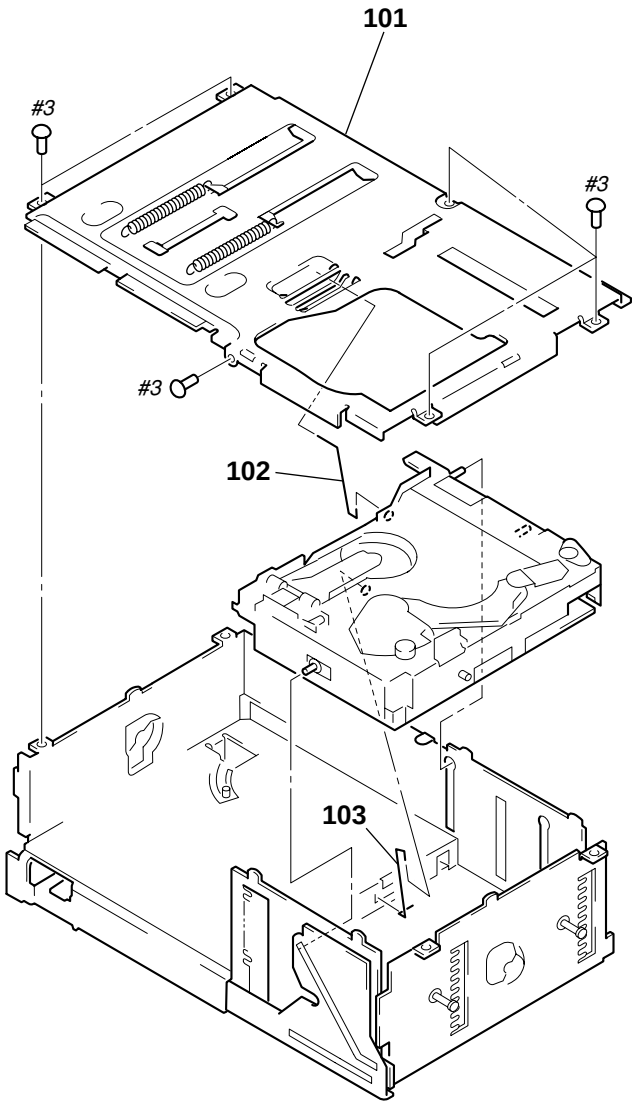
7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
1	3-047-852-01	DAMPER (T)	
* 2	1-679-419-11	SWITCH BOARD	
3	1-664-796-11	JACK FLEXIBLE BOARD	
* 4	1-679-418-11	JACK BOARD	
5	X-3379-711-1	DOOR (H) ASSY (US)	
5	X-3379-715-1	DOOR (H) ASSY (AEP, UK)	
6	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
7	3-229-226-01	PANEL, FRONT	
8	3-042-244-11	SCREW (T)	
9	3-041-218-21	ESCUTCHEON (T)	
10	3-022-007-01	BUTTON (EJT) (⏏)	
* 11	3-022-012-01	HEAT SINK (T)	
12	3-038-166-01	SPRING (FL), TENSION COIL	
13	3-022-010-31	LEVER (FLT)	
* 14	3-047-688-01	CASE (UPPER. LOWER)	

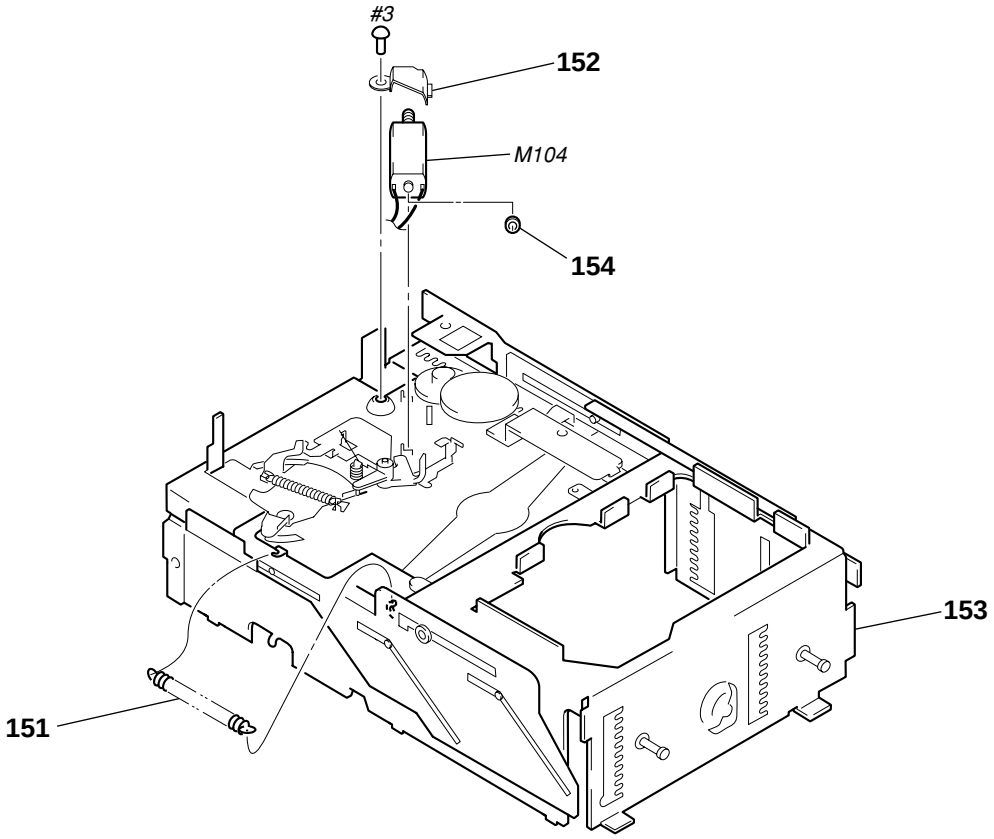
Ref. No.	Part No.	Description	Remark
* 15	A-3283-131-A	MAIN BOARD, COMPLETE	
17	3-935-636-11	SCREW (FP)	
18	X-3375-357-1	ARM (FLT) ASSY	
* 19	3-041-082-21	PLATE (XPLOD) (AEP, UK)	
* 19	3-041-082-31	PLATE (XPLOD) (US)	
20	X-3375-360-1	ARM (FRT) ASSY	
* 21	3-024-065-01	CUSHION (EJECT-T)	
* 23	1-679-420-11	DIGITAL OUT BOARD	
* 24	3-011-205-01	BRACKET (LIGHT)	
25	3-011-204-21	COVER (LIGHT)	
26	3-924-924-11	COVER (LIGHT)	
29	1-676-339-11	MAIN FLEXIBLE BOARD	
RV202	1-227-137-11	RES, VAR, SLIDE 10K (ELEVATOR HEIGHT SENSOR)	

7-2. MECHANISM DECK SECTION-1 (MG-251B-137)



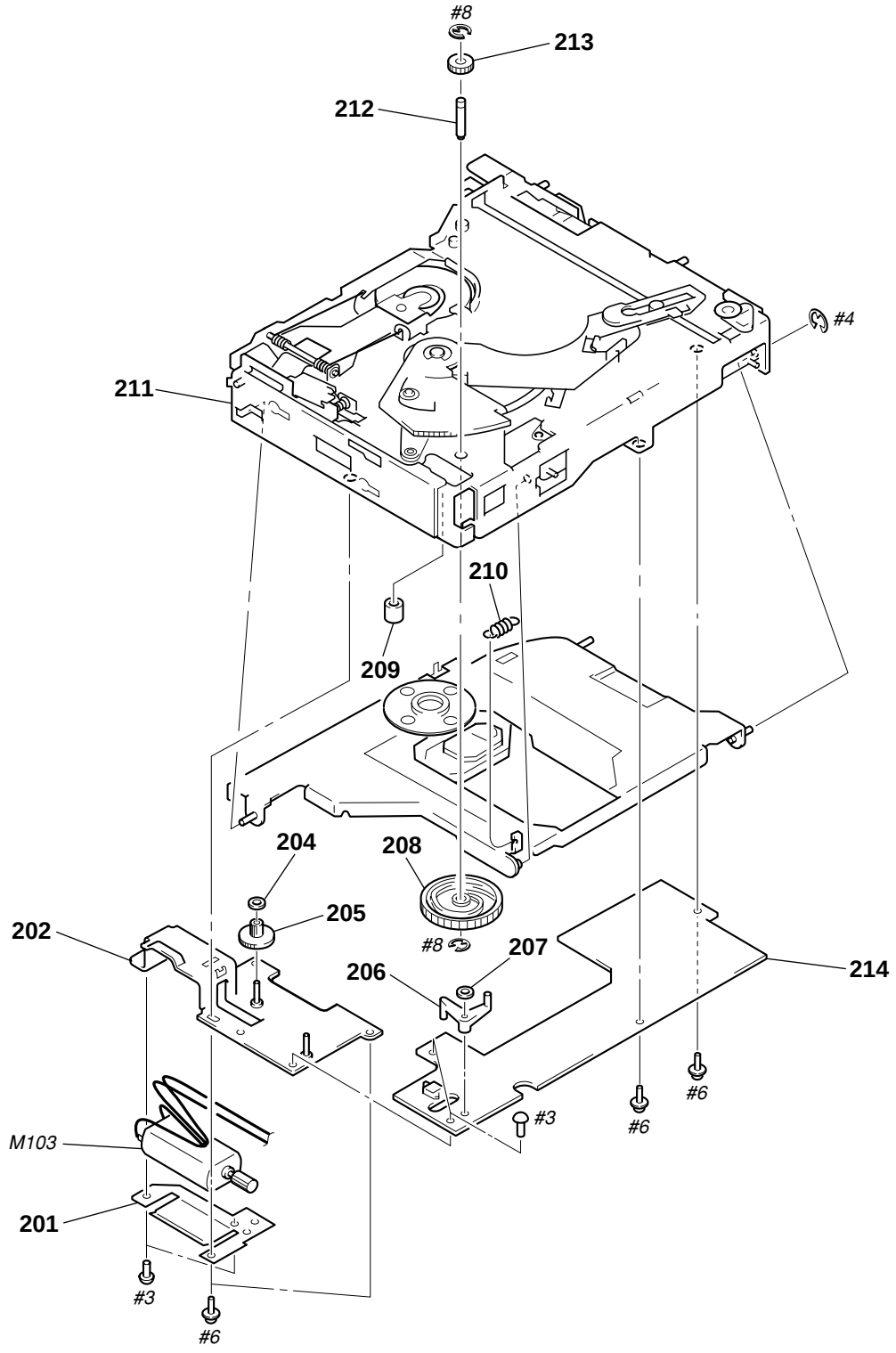
Ref. No.	Part No.	Description	Remark
101	X-3378-091-1	CHASSIS (U. S) SUB ASSY	
102	3-024-161-01	SPRING (SUT)	
103	3-011-997-01	SPRING (STOPPER. LOWER)	

7-3. MECHANISM DECK SECTION-2 (MG-251B-137)



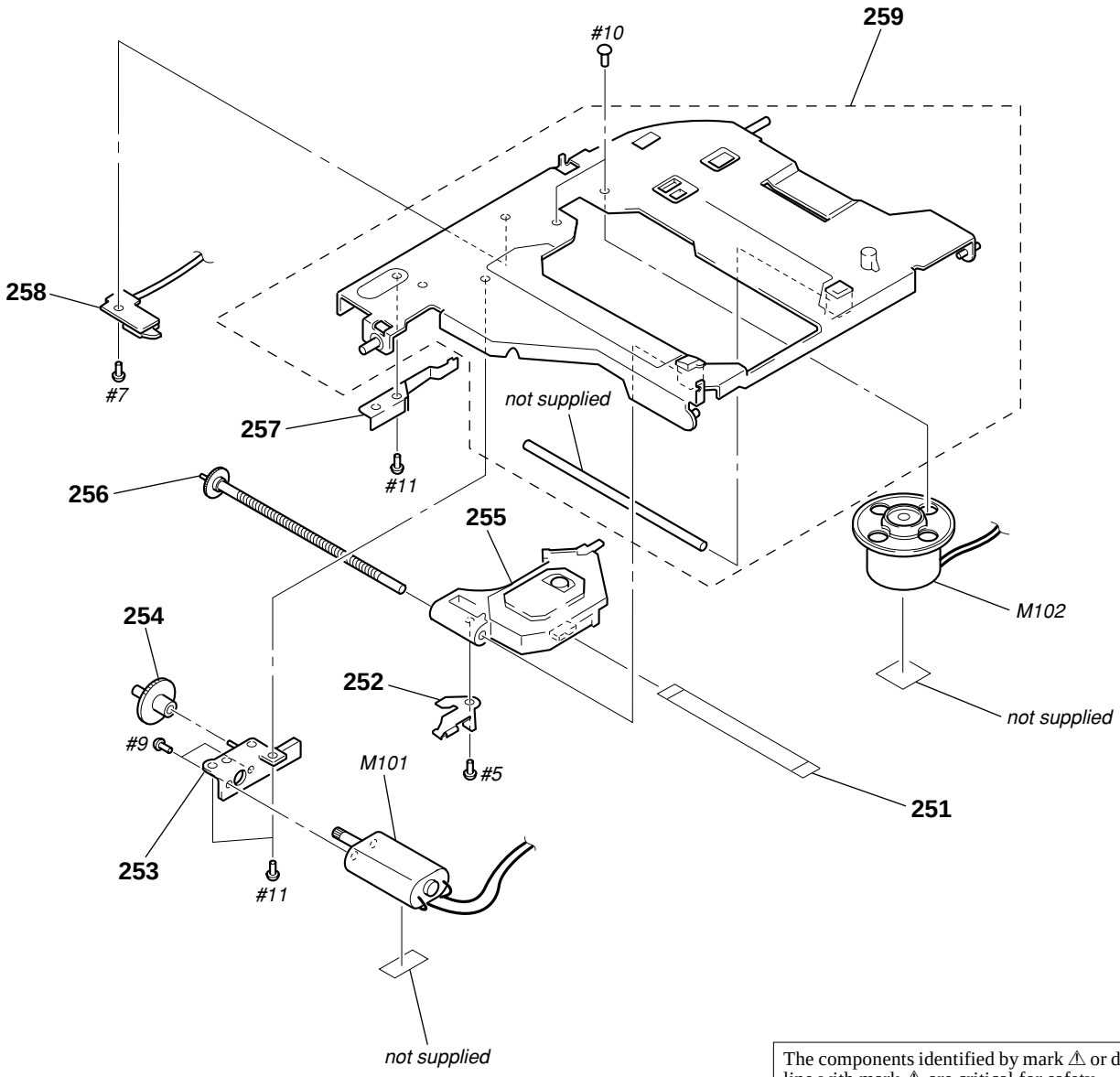
Ref. No.	Part No.	Description	Remark
151	3-024-170-01	SPRING (SB), TENSION	
* 152	3-040-790-01	BRACKET (EVM. S)	
153	X-3378-092-1	CHASSIS (D. S) SUB ASSY	
* 154	3-014-685-01	SPACER (MO)	
M104	A-3301-123-A	ELJ MOTOR ASSY (ELEVATOR)	

7-4. MECHANISM DECK SECTION-3 (MG-251B-137)



Ref. No.	Part No.	Description	Remark
* 201	3-024-150-01	RETAINER (CHM)	
* 202	X-3378-080-1	BRACKET (CHM. D) ASSY	
204	3-321-813-01	WASHER, COTTER POLYETHYLENE	
205	3-017-139-01	GEAR (WORM LOAD A)	
206	3-022-839-01	ARM (NSW)	
207	3-573-936-00	STOPPER, REEL	
208	X-3375-220-1	GEAR (LOAD CAM) ASSY	
209	3-010-252-11	ROLLER (CRE)	
210	3-010-268-01	SPRING (DH), TENSION	
* 211	A-3290-194-C	MAIN ASSY, CHASSIS (EVY)	
212	3-010-254-11	SHAFT (ROTARY PREVENTION C)	
213	3-010-253-01	GEAR (LOMINI)	
* 214	A-3326-947-A	RF BOARD, COMPLETE	
M103	A-3301-123-A	ELJ MOTOR ASSY (CHUCKING)	

7-5. MECHANISM DECK SECTION-4 (MG-251B-137)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
251	1-676-341-11	OP FLEXIBLE BOARD	
252	3-025-743-01	SPRING (FEED), LEAF	
253	X-3378-101-1	HOLDER (SLED. S) ASSY	
254	3-931-832-01	GEAR (SL MIDWAY)	
⚠255	8-820-103-03	OPTICAL PICK-UP KSS-720A/K1RP	
256	A-3291-669-A	SHAFT (FEED) ASSY	
257	3-010-263-01	DETENT (SHAFT THRUST)	
* 258	1-679-422-11	LSW BOARD	
259	A-3301-954-A	BASE (OPT. S) (J) ASSY	
M101	A-3315-151-A	SLED MOTOR ASSY (251)	
M102	A-3301-998-A	SPINDLE MOTOR (S) SUB ASSY	

SECTION 8
ELECTRICAL PARTS LIST

DIGITAL OUT **JACK** **LSW** **MAIN**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-679-420-11	DIGITAL OUT BOARD			
		**********			
		< CAPACITOR >			
C701	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CN701	1-770-621-21	PIN, CONNECTOR 4P			
		< IC >			
IC701	8-749-923-53	IC TOTX193 (DIGITAL OUT)			
		< RESISTOR >			
R701	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
		< SWITCH >			
SW701	1-571-478-11	SWITCH, SLIDE (ANALOG/DIGITAL)			
**********					
*	1-679-418-11	JACK BOARD			
		**********			
		< CAPACITOR >			
C901	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C902	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C904	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CN901	1-779-077-71	PLUG, CONNECTOR(CONTROL, ANALOG OUT)			
CN902	1-770-621-21	PIN, CONNECTOR 4P			
CNJ901	1-774-679-21	CONNECTOR, FPC 16P			
		< DIODE >			
D901	8-719-978-33	DIODE DTZ-TT11-6.8B			
D902	8-719-978-33	DIODE DTZ-TT11-6.8B			
		< FERRITE BEAD >			
FB901	1-500-445-21	FERRITE	0uH		
FB902	1-500-445-21	FERRITE	0uH		
FB903	1-500-445-21	FERRITE	0uH		

Ref. No.	Part No.	Description			Remark
		< IC LINK >			
PS901	1-576-398-21	LINK, IC (CCP2E63)			
**********					
*	1-679-422-11	LSW BOARD			
		**********			
		< SWITCH >			
SW3	1-529-565-41	SWITCH, PUSH (1KEY) (LIMIT)			
**********					
*	A-3283-131-A	MAIN BOARD, COMPLETE			
		**********			
	1-676-339-12	MAIN FLEXIBLE BOARD			
		< CAPACITOR >			
C101	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C102	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C103	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C104	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C105	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C106	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C107	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C108	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C109	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C110	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C111	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C112	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C113	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C114	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C115	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C121	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C122	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C123	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C161	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C162	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C201	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C202	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C203	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C204	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C205	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C206	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C301	1-164-156-11	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remark
C302	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C303	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C304	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C305	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C306	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C307	1-165-112-11	CERAMIC CHIP	0.33uF	20%	10V
C308	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C309	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C310	1-115-466-00	ELECT	1000uF	20%	16V
C311	1-115-651-11	ELECT	100uF	20%	16V
C312	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C313	1-115-651-11	ELECT	100uF	20%	16V
C314	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C315	1-135-605-21	ELECT	1000uF		16V
C316	1-126-157-11	ELECT	10uF	20%	16V
C317	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C318	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C319	1-127-491-00	ELECT (SOLID)	22uF	20%	10V
C403	1-164-730-11	CERAMIC CHIP	0.0012uF	10%	50V
C404	1-164-730-11	CERAMIC CHIP	0.0012uF	10%	50V
C405	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C406	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C407	1-115-651-11	ELECT	100uF	20%	16V
C408	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C409	1-115-650-11	ELECT	47uF	20%	16V
C410	1-115-650-11	ELECT	47uF	20%	16V
C411	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C412	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C501	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C502	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C503	1-115-651-11	ELECT	100uF	20%	16V
C504	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C505	1-115-651-11	ELECT	100uF	20%	16V
C506	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C508	1-115-650-11	ELECT	47uF	20%	16V
C509	1-115-650-11	ELECT	47uF	20%	16V
		< CONNECTOR >			
CN301	1-779-321-11	CONNECTOR, FPC 16P			
		< DIODE >			
D302	8-719-017-94	DIODE	MA8180		
D303	8-719-017-94	DIODE	MA8180		
D306	8-719-069-56	DIODE	UDZS-TE17-6.2B		
D307	8-719-988-61	DIODE	1SS355TE-17		
D310	8-719-422-62	DIODE	MA8062-L-TX		
D313	8-719-071-34	DIODE	RB521S-30-TE61		
D314	8-719-071-34	DIODE	RB521S-30-TE61		
		< FERRITE BEAD >			
FB101	1-500-445-21	FERRITE	0uH		
		< IC >			
IC101	8-752-398-18	IC	CXD3027R		
IC102	8-759-538-44	IC	MSM51V17400D-10TK-FS		
IC201	6-800-233-02	IC	MB90473PFV-G-110-BNDE1		
IC203	8-759-660-38	IC	BR24C16FJ-E2		

Ref. No.	Part No.	Description			Remark
IC301	8-759-527-33	IC	LB1930M-TLM		
IC302	8-759-829-46	IC	BA8272AFV-E2		
IC303	8-759-827-97	IC	XC61CN2502PR		
IC304	8-759-833-13	IC	NJM2395AF08		
IC305	8-759-833-12	IC	NJM2395AF05		
IC306	8-759-444-93	IC	RH5RL33AA-T1		
IC401	8-759-662-11	IC	TLV2362IPWR		
IC402	8-759-662-11	IC	TLV2362IPWR		
IC501	8-759-648-44	IC	PCM1728E/2K		
		< TRANSISTOR >			
Q202	8-729-901-00	TRANSISTOR	DTC124EK		
Q301	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q303	8-729-820-46	TRANSISTOR	2SB1202FAS		
Q304	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q402	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q410	8-729-015-39	TRANSISTOR	DTC323TK		
Q420	8-729-015-39	TRANSISTOR	DTC323TK		
		< RESISTOR >			
R101	1-216-839-11	METAL CHIP	33K	5%	1/16W
R102	1-216-833-11	METAL CHIP	10K	5%	1/16W
R103	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R104	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R105	1-216-857-11	METAL CHIP	1M	5%	1/16W
R106	1-216-853-11	METAL CHIP	470K	5%	1/16W
R107	1-216-833-11	METAL CHIP	10K	5%	1/16W
R108	1-216-853-11	METAL CHIP	470K	5%	1/16W
R109	1-216-857-11	METAL CHIP	1M	5%	1/16W
R122	1-216-839-11	METAL CHIP	33K	5%	1/16W
R123	1-216-845-11	METAL CHIP	100K	5%	1/16W
R125	1-216-839-11	METAL CHIP	33K	5%	1/16W
R201	1-216-845-11	METAL CHIP	100K	5%	1/16W
R202	1-216-845-11	METAL CHIP	100K	5%	1/16W
R203	1-216-833-11	METAL CHIP	10K	5%	1/16W
R204	1-216-853-11	METAL CHIP	470K	5%	1/16W
R205	1-216-864-11	METAL CHIP	0	5%	1/16W
R206	1-216-864-11	METAL CHIP	0	5%	1/16W
R207	1-216-821-11	METAL CHIP	1K	5%	1/16W
R208	1-216-864-11	METAL CHIP	0	5%	1/16W
R209	1-216-833-11	METAL CHIP	10K	5%	1/16W
R210	1-216-864-11	METAL CHIP	0	5%	1/16W
R211	1-216-864-11	METAL CHIP	0	5%	1/16W
R221	1-216-833-11	METAL CHIP	10K	5%	1/16W
R222	1-216-833-11	METAL CHIP	10K	5%	1/16W
R250	1-216-845-11	METAL CHIP	100K	5%	1/16W
R301	1-216-841-11	METAL CHIP	47K	5%	1/16W
R302	1-216-845-11	METAL CHIP	100K	5%	1/16W
R303	1-216-846-11	METAL CHIP	120K	5%	1/16W
R304	1-216-847-11	METAL CHIP	150K	5%	1/16W
R305	1-216-845-11	METAL CHIP	100K	5%	1/16W
R306	1-216-841-11	METAL CHIP	47K	5%	1/16W
R310	1-216-841-11	METAL CHIP	47K	5%	1/16W
R311	1-216-845-11	METAL CHIP	100K	5%	1/16W
R401	1-216-833-11	METAL CHIP	10K	5%	1/16W
R402	1-216-833-11	METAL CHIP	10K	5%	1/16W
R403	1-216-833-11	METAL CHIP	10K	5%	1/16W

MAIN RF

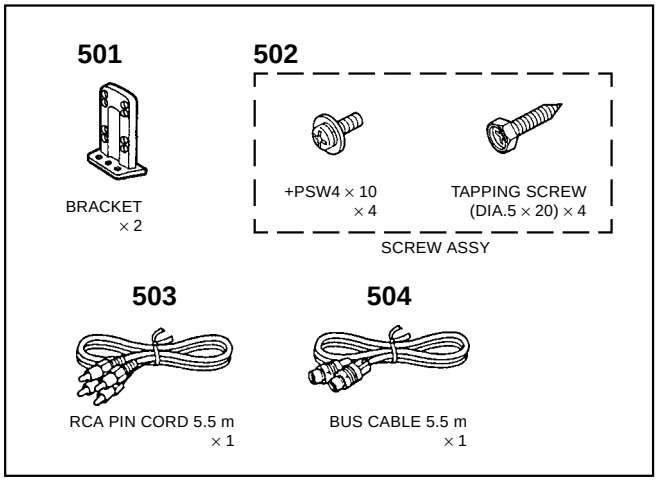
Ref. No.	Part No.	Description			Remark
R404	1-216-833-11	METAL CHIP	10K	5%	1/16W
R405	1-216-833-11	METAL CHIP	10K	5%	1/16W
R406	1-216-833-11	METAL CHIP	10K	5%	1/16W
R407	1-218-871-11	RES-CHIP	10K	2%	1/16W
R408	1-218-871-11	RES-CHIP	10K	2%	1/16W
R409	1-218-645-11	RES-CHIP	11K	2%	1/16W
R410	1-218-645-11	RES-CHIP	11K	2%	1/16W
R411	1-216-853-11	METAL CHIP	470K	5%	1/16W
R412	1-216-853-11	METAL CHIP	470K	5%	1/16W
R413	1-216-809-11	METAL CHIP	100	5%	1/16W
R414	1-216-809-11	METAL CHIP	100	5%	1/16W
R415	1-216-845-11	METAL CHIP	100K	5%	1/16W
R416	1-216-845-11	METAL CHIP	100K	5%	1/16W
R501	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< VARIABLE RESISTOR >			
RV201	1-223-834-11	RES, ADJ, CARBON 47K			
		< SWITCH >			
SW201	1-529-565-41	SWITCH, PUSH (1 KEY) (MAGAZINE DETECT)			
		< VIBRATOR >			
X201	1-781-282-11	VIBRATOR, CERAMIC (4MHz)			
X501	1-795-306-11	OSCILLATOR, CERAMIC (16.9344MHz)			
**********					
*	A-3326-947-A	RF BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C103	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C104	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C105	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C106	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C107	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C108	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C109	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C111	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C121	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C122	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C201	1-117-681-11	ELECT CHIP	100uF	20%	16V
C202	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C203	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C204	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C205	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C206	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C207	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C208	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C209	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C217	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN102	1-778-303-21	CONNECTOR, FPC (ZIF) 16P			
CNJ101	1-778-777-21	CONNECTOR, FPC 26P			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC101	8-752-089-74	IC CXA2581N-T4			
IC201	8-759-832-99	IC LA6576L-TE-L			
		< TRANSISTOR >			
Q101	8-729-141-48	TRANSISTOR	2SB624-BV345		
Q102	8-729-901-00	TRANSISTOR	DTC124EK		
		< RESISTOR >			
R101	1-216-801-11	METAL CHIP	22	5%	1/16W
R102	1-216-837-11	METAL CHIP	22K	5%	1/16W
R103	1-216-837-11	METAL CHIP	22K	5%	1/16W
R104	1-216-845-11	METAL CHIP	100K	5%	1/16W
R105	1-216-801-11	METAL CHIP	22	5%	1/16W
R106	1-216-864-11	METAL CHIP	0	5%	1/16W
R107	1-216-845-11	METAL CHIP	100K	5%	1/16W
R108	1-216-833-11	METAL CHIP	10K	5%	1/16W
R109	1-216-836-11	METAL CHIP	18K	5%	1/16W
R110	1-216-836-11	METAL CHIP	18K	5%	1/16W
R112	1-216-845-11	METAL CHIP	100K	5%	1/16W
R113	1-218-859-11	METAL CHIP	3.3K	0.5%	1/16W
R117	1-216-833-11	METAL CHIP	10K	5%	1/16W
R119	1-216-864-11	METAL CHIP	0	5%	1/16W
R120	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R121	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R122	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R201	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R202	1-216-833-11	METAL CHIP	10K	5%	1/16W
R203	1-216-833-11	METAL CHIP	10K	5%	1/16W
R204	1-216-839-11	METAL CHIP	33K	5%	1/16W
R205	1-216-833-11	METAL CHIP	10K	5%	1/16W
R206	1-216-839-11	METAL CHIP	33K	5%	1/16W
R207	1-216-833-11	METAL CHIP	10K	5%	1/16W
R208	1-216-839-11	METAL CHIP	33K	5%	1/16W
R209	1-216-833-11	METAL CHIP	10K	5%	1/16W
R210	1-216-839-11	METAL CHIP	33K	5%	1/16W
R211	1-216-833-11	METAL CHIP	10K	5%	1/16W
R212	1-216-839-11	METAL CHIP	33K	5%	1/16W
R213	1-216-833-11	METAL CHIP	10K	5%	1/16W
R214	1-216-839-11	METAL CHIP	33K	5%	1/16W
R215	1-216-841-11	METAL CHIP	47K	5%	1/16W
R216	1-216-842-11	METAL CHIP	56K	5%	1/16W
R218	1-216-841-11	METAL CHIP	47K	5%	1/16W
R219	1-216-843-11	METAL CHIP	68K	5%	1/16W
R220	1-216-834-11	METAL CHIP	12K	5%	1/16W
R222	1-216-821-11	METAL CHIP	1K	5%	1/16W
R223	1-216-819-11	METAL CHIP	680	5%	1/16W
		< SWITCH >			
SW1	1-529-566-41	SWITCH, PUSH (1KEY) (CHUKING END DETECT)			
SW2	1-529-566-41	SWITCH, PUSH (1KEY) (SAVE END DETECT)			
**********					

SWITCH

Ref. No.	Part No.	Description	Remark
*	1-679-419-11	SWITCH BOARD	
		**********	
		< SWITCH >	
SW801	1-692-431-21	SWITCH, TACTILE (⏏)	
**********			
		MISCELLANEOUS	
		**********	
3	1-664-796-11	JACK FLEXIBLE BOARD	
251	1-676-341-11	OP FLEXIBLE BOARD	
⚠255	8-820-103-03	OPTICAL PICK-UP KSS-720A/K1RP	
M101	A-3315-151-A	SLED MOTOR ASSY (251)	
M102	A-3301-998-A	SPINDLE MOTOR (S) SUB ASSY	
M103	A-3301-123-A	ELJ MOTOR ASSY (CHUCKING)	
M104	A-3301-123-A	ELJ MOTOR ASSY (ELEVATOR)	
RV202	1-227-137-11	RES, VAR, SLIDE 10K (ELEVATOR HEIGHT SENSOR)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-627-852-07	SCREW, PRECISION +P 1.7X2.5	
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#3	7-685-781-09	SCREW +PTT 2X4 (S)	
#4	7-624-104-04	STOP RING 2.0, TYPE-E	
#5	7-627-554-07	SCREW, PRECISION +P 2X2.2	
#6	7-628-253-00	SCREW +PS 2X4	
#7	7-627-553-27	SCREW, PRECISION +P 2X2.5	
#8	7-624-102-04	STOP RING 1.5, TYPE-E	
#9	7-627-850-28	SCREW, PRECISION +P 1.4X3	
#10	7-627-000-00	SCREW, PRECISION +P1.7X2.2 TYPE 3	
#11	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3	
#13	7-685-853-04	SCREW +BVTT 2X6 (S)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-225-368-11	MANUAL, INSRTUCTION (ENGLISH, FRENCH)	
	3-225-368-21	MANUAL, INSRTUCTION (ENGLISH, FRENCH, GERMAN, DUTCH, ITALIAN)	
	3-225-368-31	MANUAL, INSRTUCTION (SPANISH, SWEDISH, PORTUGUESE, POLISH, RUSSIAN, GREEK)	
	A-3301-944-A	MAGAZINE (250T) ASSY	
**********			

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
501	3-040-583-21	BRACKET (T)	
* 502	X-3369-824-1	SCREW ASSY	
503	1-790-455-21	CORD, CONNECTION (RCA PIN CORD 5.5m)	
504	1-590-519-21	CORD (WITH CONNECTOR) (BUS CABLE 5.5m)	



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MEMO

CDX-848X

SONY

SERVICE MANUAL

US Model
AEP Model
UK Model

Ver 1.2 2001.06

SUPPLEMENT-1

File this supplement with the service manual.

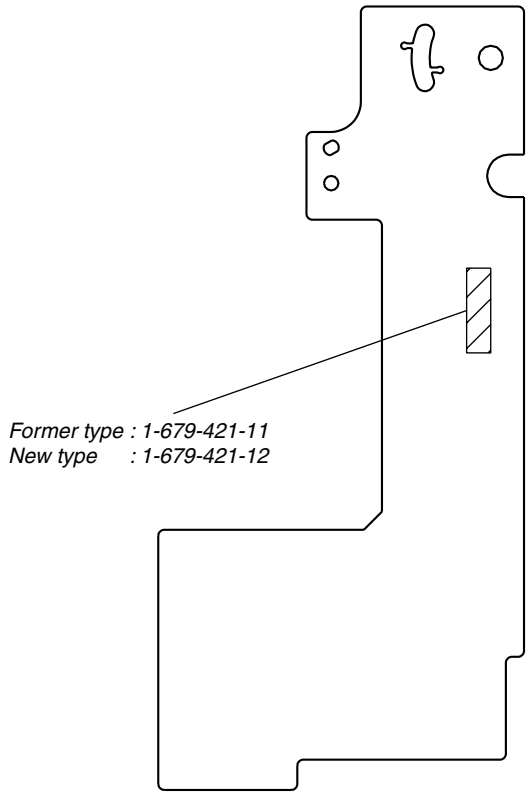
Subject: Change of RF/LSW boards

(ECN-CSA04819)

In this set, RF/LSW boards have been changed in the midway of production.
Printed wiring boards and schematic diagrams of new type, and changed parts list are described in this supplement-1.
Refer to original service manual for other information.

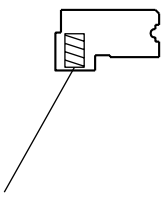
• NEW/FORMER TYPE DISCRIMINATION

– RF BOARD (Component Side) –



Former type : 1-679-421-11
New type : 1-679-421-12

– LSW BOARD (Component Side) –



Former type : 1-679-422-11
New type : 1-679-422-12

NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- ——— : parts extracted from the conductor side.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

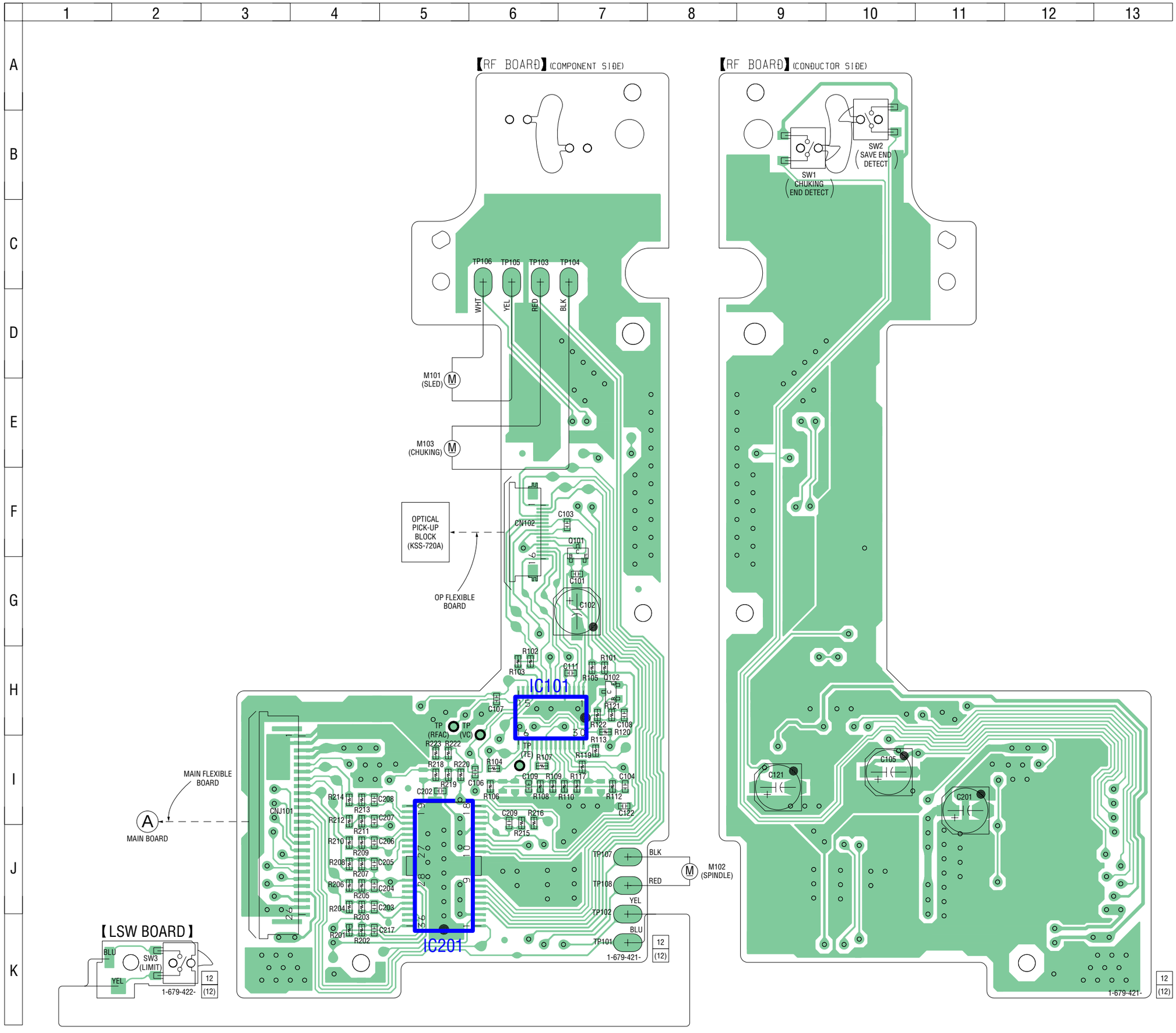
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from CD changer controller.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  ∗ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD PLAY

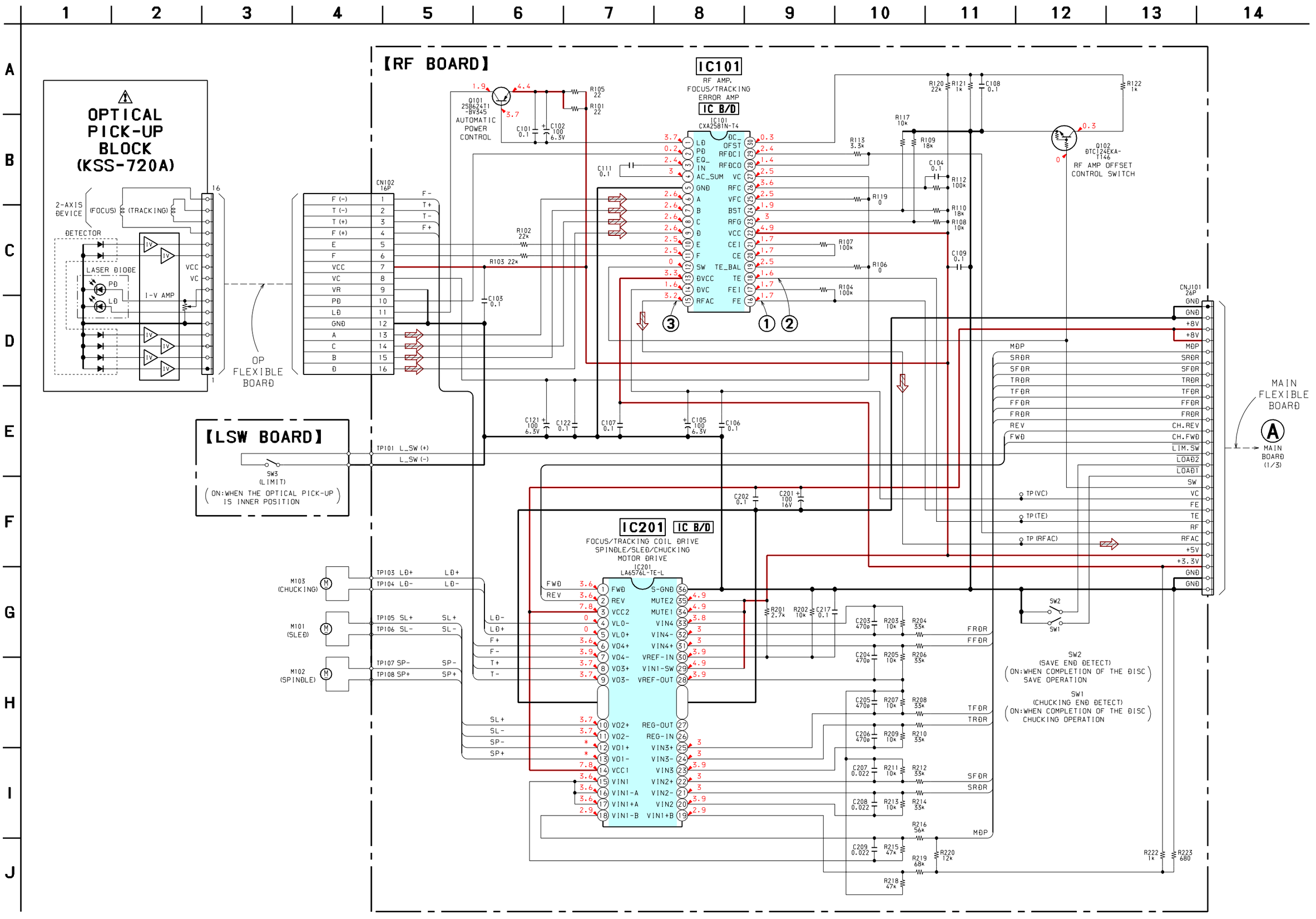
PRINTED WIRING BOARDS – RF/LSW Boards –

- **Semiconductor Location**

Ref. No.	Location
IC101	H-6
IC201	J-5
Q101	F-7
Q102	H-7



SCHEMATIC DIAGRAM – RF/LSW Boards –



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

LSW **RF**

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-679-422-12	LSW BOARD			
		**********			
		< SWITCH >			
SW3	1-529-565-41	SWITCH, PUSH (1KEY) (LIMIT)			
**********					
*	A-3326-947-A	RF BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C103	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C104	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C105	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C106	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C107	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C108	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C109	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C111	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C121	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C122	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C201	1-117-681-11	ELECT CHIP	100uF	20%	16V
C202	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C203	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C204	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C205	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C206	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C207	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C208	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C209	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C217	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN102	1-778-303-21	CONNECTOR, FPC (ZIF) 16P			
CNJ101	1-778-777-21	CONNECTOR, FPC 26P			
		< IC >			
IC101	8-752-089-74	IC CXA2581N-T4			
IC201	8-759-832-99	IC LA6576L-TE-L			
		< TRANSISTOR >			
Q101	8-729-141-48	TRANSISTOR	2SB624-BV345		
Q102	8-729-901-00	TRANSISTOR	DTC124EK		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-216-801-11	METAL CHIP	22	5%	1/16W
R102	1-216-837-11	METAL CHIP	22K	5%	1/16W
R103	1-216-837-11	METAL CHIP	22K	5%	1/16W
R104	1-216-845-11	METAL CHIP	100K	5%	1/16W
R105	1-216-801-11	METAL CHIP	22	5%	1/16W
R106	1-216-864-11	METAL CHIP	0	5%	1/16W
R107	1-216-845-11	METAL CHIP	100K	5%	1/16W
R108	1-216-833-11	METAL CHIP	10K	5%	1/16W
R109	1-216-836-11	METAL CHIP	18K	5%	1/16W
R110	1-216-836-11	METAL CHIP	18K	5%	1/16W
R112	1-216-845-11	METAL CHIP	100K	5%	1/16W
R113	1-218-859-11	METAL CHIP	3.3K	0.5%	1/16W
R117	1-216-833-11	METAL CHIP	10K	5%	1/16W
R119	1-216-864-11	METAL CHIP	0	5%	1/16W
R120	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R121	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R122	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R201	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R202	1-216-833-11	METAL CHIP	10K	5%	1/16W
R203	1-216-833-11	METAL CHIP	10K	5%	1/16W
R204	1-216-839-11	METAL CHIP	33K	5%	1/16W
R205	1-216-833-11	METAL CHIP	10K	5%	1/16W
R206	1-216-839-11	METAL CHIP	33K	5%	1/16W
R207	1-216-833-11	METAL CHIP	10K	5%	1/16W
R208	1-216-839-11	METAL CHIP	33K	5%	1/16W
R209	1-216-833-11	METAL CHIP	10K	5%	1/16W
R210	1-216-839-11	METAL CHIP	33K	5%	1/16W
R211	1-216-833-11	METAL CHIP	10K	5%	1/16W
R212	1-216-839-11	METAL CHIP	33K	5%	1/16W
R213	1-216-833-11	METAL CHIP	10K	5%	1/16W
R214	1-216-839-11	METAL CHIP	33K	5%	1/16W
R215	1-216-841-11	METAL CHIP	47K	5%	1/16W
R216	1-216-842-11	METAL CHIP	56K	5%	1/16W
R218	1-216-841-11	METAL CHIP	47K	5%	1/16W
R219	1-216-843-11	METAL CHIP	68K	5%	1/16W
R220	1-216-834-11	METAL CHIP	12K	5%	1/16W
R222	1-216-821-11	METAL CHIP	1K	5%	1/16W
R223	1-216-819-11	METAL CHIP	680	5%	1/16W
		< SWITCH >			
SW1	1-529-566-31	SWITCH, PUSH (1KEY) (CHUKING END DETECT)			
SW2	1-529-566-31	SWITCH, PUSH (1KEY) (SAVE END DETECT)			

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.2	2001.06	Change of RF/LSW BOARDS (ECN-CSA04819)
1.1	2001.05	Addition of SUB BOARD (ECN-CSB02847)
1.0	2001.02	New